

**Australian Dangerous Goods Code**  
**7<sup>th</sup> Edition**

**INFORMATION GUIDE**

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# INFORMATION GUIDE

## Table of Contents

INTRODUCTION .....	G1
Purpose .....	G1
The Australian Dangerous Goods Code .....	G1
Background .....	G1
Status .....	G2
Coverage .....	G2
Structure .....	G3
How to Navigate the Code .....	G5
KEY CHANGES .....	G6
1. Scope & Application .....	G6
2. Class / Division .....	G7
3. Classification, Packing and Transport of Infectious Substances .....	G8
4. Classification Criteria for Class 9, Miscellaneous Dangerous Substances and Articles .....	G9
5. The Dangerous Goods List .....	G10
6. Significant Changes in Dangerous Goods List Entries .....	G11
7. ‘Bulk’ and ‘Packaged’ .....	G12
8. ‘Bulk Container’ .....	G13
9. IBCs .....	G14
10. Packing and IBC Instructions .....	G15
11. Portable Tank and Bulk Container Instructions <i>—also has relevance to Tank Vehicles</i> .....	G17
12. Large Packagings / Unit Loads / Overpacks / Segregation Devices .....	G18
13. Provisions for the Transport of Small Quantities .....	G19
14. Limited Quantities (Chapter 3.4) .....	G20
15. Retail Distribution Loads (Chapter 7.3) .....	G21
16. Placard Load/Placarding Trigger Points .....	G22
GUIDE TO THE CODE .....	G23
Part 1 General Provisions, Definitions and Interpretation .....	G23
Part 2 Classification .....	G24
Part 3 Dangerous Goods List, Special Provisions and Limited Quantities Exceptions .....	G25
Part 4 Packing, Tank, Container and Vehicle Provisions .....	G27
Part 5 Consignment Procedures —Including Labelling, Marking and Placarding.....	G28
Part 6 Requirements for the Construction and Testing of Packagings, IBCs, Large Packagings, Portable Tanks, MEGCs, Bulk Containers, Tank Vehicles, Freight Containers and Segregation Devices .....	G31
Part 7 Provisions Concerning Transport Operations .....	G34
Part 8 Stowage and Restraint .....	G35
Part 9 Segregation .....	G35
Part 10 Bulk Transfer of Dangerous Goods .....	G36
Part 11 Documentation .....	G37
Part 12 Safety Equipment for Road Vehicles .....	G37
Part 13 Procedures during Road Transport .....	G37

**ADG 7 Information Guide**

**GUIDE TO THE CODE (cont.)**

Appendices .....	G38
Appendix A — Goods Too Dangerous To Be Transported .....	G38
Appendix B: — Forms .....	G38
Appendix C — Emergency Action Codes .....	G38
Appendix D — Code of Practice for Reprocessing Steel Drums .....	G38
<b>FREQUENTLY ASKED QUESTIONS .....</b>	<b>G39</b>
FAQ 1. —HOW DO I? Determine if a substance is dangerous goods and its classification? .....	G39
FAQ 2. —HOW DO I? Decide how to pack my dangerous goods? .....	G40
FAQ 3. —HOW DO I Determine what package labelling and marking is required? .....	G41
FAQ 4. —HOW DO I? Determine if dangerous goods are incompatible? .....	G42
FAQ 5. —HOW DO I? Determine when my vehicle requires placarding? .....	G43
FAQ 6. —HOW DO I? Determine what placarding is required on my vehicle? .....	G44
FAQ 7. —HOW DO I? Pack small quantities of dangerous goods? .....	G45
<b>TABLE OF CORRESPONDENCE ADG6 — ADG7 .....</b>	<b>G46</b>

## PURPOSE

The 7<sup>th</sup> Edition of the Australian Dangerous Goods Code [ADG7] is structured very differently from the 6<sup>th</sup> Edition [ADG6] published in 1998 and all previous editions. Principally this is because, in the interests of international uniformity and facilitating the import and export of dangerous goods, ADG7 has adopted, as far as is practicable, the structure and content of the Model Regulations annexed to the United Nations Recommendations on the Transport of Dangerous Goods. Just prior to publication it has been updated to align as closely as practicable with the agreed changes to the 15<sup>th</sup> Revised Edition of the UN publication [UN15].

This Guide has been produced to assist users to find their way around the new Code and identify key areas of difference that may require changes in the way dangerous goods are packed, labelled, documented and transported within Australia.

It should be particularly useful for those who are familiar with and know where to find information in the 6<sup>th</sup> Edition who need to find corresponding provisions in the 7<sup>th</sup> Edition.

## THE AUSTRALIAN DANGEROUS GOODS CODE

### Background

Since first published in 1980, the Australian Dangerous Goods Code [ADG Code] has provided technical instructions and recommendations designed to provide safe transport of dangerous goods by road and rail throughout Australia.

ADG6, published in 1998, was the first edition in which the technical requirements were separated from the legal obligations which were transferred to the Road Transport Reform (Dangerous Goods) Regulations and the Rail (Dangerous Goods) Rules of the Commonwealth which were, in turn, either adopted by reference or incorporated into the necessary State Regulations.

The technical content of ADG6 was based on the 9<sup>th</sup> Revised Edition of the United Nations Recommendations on the Transport of Dangerous Goods [UN Recommendations]. In the interim there have been five further published Editions of the UN Recommendations, and the sixth (UN15) will be published during 2007. They have also undergone a major restructure into a form intended to become Model Regulations. The 14<sup>th</sup> Revised Edition of the UN Recommendations and the Model Regulations annexed thereto [UN14], published in 2005, now forms the basis of recent editions of the International Maritime Dangerous Goods Code [IMDG Code], the International Civil Aviation Organisation's Dangerous Goods Instructions [ICAO Rules], the International Air Transport Association's Dangerous Goods Regulations [IATA Regulations], together with the European agreements covering road and rail transport of dangerous goods [ADR and RID]. The ADG Code had therefore become inconsistent in many areas with those Codes governing import and export of dangerous goods.

Following publication of the 6<sup>th</sup> Edition the ADG Code [ADG6], the National Transport Commission [NTC], advised by the national Advisory Committee on the Transport of Dangerous Goods [ACTDG] started examining ways in which the ADG Code could be more easily kept up-to-date with the UN and more particularly the international modal codes with which Australian trade interfaces. The UN base document is revised every two years, adding new 'UN Numbers' and incorporating technical changes to improve safety based on world-wide experience. The modal codes have in recent years adopted the format of the UN Model Regulations in order to facilitate update. The ADG Code now follows this model.

### Status

The ADG Code only has legal status where this is conferred by the relevant legislation in force in each State and Territory. To facilitate its uniform adoption, NTC has prepared model legislation in the form of:

- 'Model Law on the Transport of Dangerous Goods by Road or Rail'; and
- 'Model Subordinate Law on the Transport of Dangerous Goods by Road or Rail'.

It is expected, in line with Commonwealth/State agreements and as occurred following publication of ADG6, that all States and Territories will adopt this legislation, either by direct reference or by incorporation into their own Acts and Regulations.

The Model Law on the Transport of Dangerous Goods by Road or Rail [*the Model Law*] effectively replaces the Commonwealth Road Transport Reform (Dangerous Goods) Act that formed the basis of legislation enabling and enforcing ADG6. The intention is that this Model Law be implemented through either a new or existing Act of Parliament in each State or Territory. It is therefore referred to throughout the Code as 'the Act'.

The Model Subordinate Law on the Transport of Dangerous Goods by Road or Rail [*the Model Subordinate Law*] replaces both the Commonwealth Road Transport Reform (Dangerous Goods) Regulations, a copy of which was included as the yellow pages of ADG6, and the Rail (Dangerous Goods) Rules that were the green pages. In ADG7, the Model Subordinate Law is published integrally with the Code. As the expectation is that the Model Subordinate Law will be implemented in each State or Territory by way of either new regulations or amendment of existing regulations, it is referred to throughout the Code as 'the Regulations'.

For most technical requirements specified in the Code, the Model Subordinate Law provides the basis for the assignment of responsibilities to individuals or organisations and the creation of offences. The Code must therefore be read in conjunction with the Model Subordinate Law, as in force in each State or Territory, in order to ensure compliance.

### Coverage

Dangerous goods are internationally recognised as substances and articles which are so designated in accordance with criteria determined by the United Nations Committee of Experts on the Transport of Dangerous Goods. It is essential that international uniformity be achieved in the recognition of dangerous goods in order to facilitate international trade and expedite response to any incidents.

The public comment draft of ADG7 incorporated fully the classification system for dangerous goods from UN13, together with its Dangerous Goods List. Following public comment, as indicated in public comment documentation, ADG7 was further updated to align with UN14 which was published in 2005. It has subsequently been further amended, with the agreement of all jurisdictions, to align technically with UN15 which will be published during 2007. Technical changes resulting from these updates are minimal:

The Model Law and Model Subordinate Law currently do not regulate the transport of dangerous goods of Class 1 (Explosives) or Class 7 (Radioactive substances and articles) except when they are transported together with other dangerous goods, or where the goods have a subsidiary risk of another class. Nonetheless, for the sake of completeness and international uniformity, ADG7 incorporates, for information purposes, the full Dangerous Goods List and the classification criteria for all classes and divisions of dangerous goods.

Provisions of the Code dealing with explosives, infectious substances, radioactive materials, waste products and other environmentally hazardous substances should be read subject to s10 of the Model Law and the following:

- The provisions of the Code regarding explosives should be read in conjunction with the requirements of any other law of a State or Territory or the Commonwealth relating to the transport of explosives. Rules for the transport of explosives are to be found predominantly in the *Australian Explosives Code*, as it is applied by State, Territory and Commonwealth legislation. Any provision of ADG7 for Class 1 should therefore be regarded as advisory, for information purposes only, unless it is called up by other legislation. They should also be read in conjunction with law applicable in the jurisdiction to security sensitive substances such as Ammonium Nitrate.
- The requirements relating to the transport of infectious substances are in addition to the requirements of any other law of a State or Territory or the Commonwealth relating to the transport of infectious substances.
- The provisions of the Code regarding radioactive substances and articles should be read in conjunction with the requirements of any other law of a State or Territory or the Commonwealth relating to radioactive materials. Rules for the transport of radioactive materials are to be found predominantly in the *Code of Practice for the Safe Transport of Radioactive Substances*, as it is applied by State, Territory and Commonwealth legislation. Any provision of ADG7 for Class 7 should therefore be regarded as advisory, for information purposes only, unless it is called up by other legislation.
- The requirements of the Code apply to waste products and other environmentally hazardous substances only where those products or substances are also dangerous goods within the meaning of the Code. Enquiries concerning the transport of waste and other environmentally hazardous substances should be directed to the relevant State or Territory authority responsible for administering environment protection legislation.

## Structure

The draft 7<sup>th</sup> edition of the Australian Dangerous Goods Code [ADG7] has been fundamentally restructured to align with the structure of the Model Regulations incorporated in UN14 and UN15. As far as is practicable in the Australian legislative context, the actual text and clause numbering mirrors that expected in UN15.

However, the ADG Code has historically incorporated requirements that are not addressed in the Model Regulations. These cover areas such as:

- Design, approval and use of road and rail tank vehicles;
- Standards and use of freight containers;
- Testing of inner packagings;
- Placarding with Emergency Information Panels;
- Segregation within loads;
- Separation of dangerous goods loads on trains;
- Provision of emergency information;
- Bulk transfer;
- Safety equipment; and
- Procedures during transport.

UN14/15 incorporate seven Parts which are further subdivided into Chapters. ADG6 comprises 14 Chapters and nine Appendices. ADG7 has adopted the UN approach, with the first seven Parts corresponding with the same numbered Parts in UN14/15. Parts 8 to 13 inclusive cover those subjects not specifically addressed by UN. The exception is the provisions for Shipping Documentation (now called Transport Documentation) that have remained in Part (previously Chapter) 11, rather than as a Chapter within Part 5 that also covers requirements for placarding and labelling.

The following approach was taken to drafting ADG7:

- As far as is practicable and consistent with Australian legislative requirements, the actual text of UN14 has been reproduced, modified to align with agreed UN15 changes, including its numbering system.
- Where a particular UN requirement has not been adopted, that clause number has been reserved to maintain the integrity of the UN numbering system and consistency with the international codes.
- Where additional Australian requirements have been inserted, these have been numbered consistently with the UN numbering protocol, continuing in the existing sequence.
- Subject matter not addressed by the Model Regulations has been incorporated in additional Parts or Chapters within existing UN Parts. For example:
  - (i) Requirements that were in Chapter 9 of ADG6, for segregation of incompatible goods, are in Part 9 of ADG7 (a Part number not used by UN).
  - (ii) General requirements for Vehicles, that were in Chapter 8, and Tank Vehicles, previously included within Chapter 4 'Bulk Containers' of ADG6, have been treated consistently with UN's approach to portable tanks and bulk containers. Requirements for their use are included as new Chapter 4.4 of ADG7, within Part 4 'Packing and Tank Provisions' which, in UN14/15, concludes after Chapter 4.3. Construction, testing and approvals requirements for Tank Vehicles are in new Chapter 6.9, within Part 6 which deals with all such matters.
- For consistency with the international codes, the usage and definition of terms have, wherever possible, been aligned with UN15. Some terms, notably "*Bulk Container*" have entirely different meanings in UN15 and therefore in ADG7, to what they had in ADG6 which will inevitably lead to some initial confusion.



## How to Navigate the Code

As with ADG6, the safest and most convenient way for persons unfamiliar with the Code and legislative requirements to determine their obligations to classify, pack, label, consign and transport dangerous goods legally and safely is to:

1. Locate the particular subject matter in the Regulations, using the Table of Contents at the beginning of the Model Legislation.
2. Determine from the appropriate regulations:
  - (i) who is responsible for compliance;
  - (ii) in what circumstances the regulations apply; and
  - (ii) which Parts or Chapters of the Code are applicable.
3. Look up the Code references to determine the technical requirements.

To further assist, a comprehensive Table of Contents is incorporated in the Code. There is also an Index where usages of commonly used terms are referenced.

To assist those familiar with ADG6, a Table of Correspondence is appended to this Guide. For each numbered clause in ADG6, directions are provided to equivalent provisions or to clauses that address substantially the same subject matter in ADG7.

## KEY CHANGES

To align with UN coverage and usage, there are some major changes in ADG7, the principal ones of which are addressed below.

### 1. Scope & Application

There are some differences between the coverage of ADG7, ADG6 and the Model Subordinate Law [*MSL*]:

- (a) ADG7 incorporates all of the classification criteria for all classes of dangerous goods, including Classes 1 and 7, and includes in the Dangerous Goods Lists in Chapter 3.2, all substances and articles of those classes.

Classes 1 (Explosives) and 7 (Radioactive Materials) are, however, outside the scope of the MSL (Clause 1.1.7(1)) except where they are transported together with dangerous goods of other classes. Most of the UN provisions for those classes were omitted from ADG6.

Introductory material to Chapters 2.1 and 2.7 in ADG7 make it clear that the information provided in the Code for those classes is for information purposes, in order to provide a single Australian document

- (b) Like ADG6, ADG7 contains provisions that may be applied to any quantity of dangerous goods, even very small quantities. In ADG6, clause 1.10 of the Road Transport Reform (Dangerous Goods) Regulations fully exempted most packaged dangerous goods when transported in less than 25% of a placard load other than in the course of a business of transporting goods. For ADG7, MSL clause 1.1.6 incorporates a similar exemption. 1.1.7(2) gives further exemptions to very small consignments, and other incidental dangerous goods transport including the fuel in the vehicle's fuel tank, vehicle operational and safety equipment.
- (c) MSL Clause 1.1.11 introduces the new concept of dangerous goods transported as tools of trade, providing conditional exemption from all other MSL provisions and therefore from some of the Code technical requirements. The exemption may apply to up to an aggregate dangerous goods quantity of 500, of which the aggregate of Division 2.3 and Packing Group I must not exceed 100. This is to allow for trades and marketing personnel to transport samples and dangerous goods needed in their employment without transport documentation and other Code requirements. However, packaging and labelling must still be appropriate and there are limitations on the carrying of fire-risk dangerous goods in passenger compartments and on the transport of Divisions 2.1 and 2.3 and Packing Group I goods in enclosed spaces on the vehicle.

–See discussion under Key Changes 13, 14 & 15 below.

## 2. Class / Division

Throughout ADG6, with regard to the classification of dangerous goods, the word “Class” is used in conjunction with the numerical identification both of the parent Class (e.g. Class 4) and the recognised divisions within that Class (e.g. Class 4.1, Class 4.2 & Class 4.3).

In UN14 and ADG7 the usage of ‘Class’ is reserved for the parent Class while ‘Division’ is used with the divisions within that class as follows:

ADG6	ADG7
<b>Class 1</b> Explosives <b>Class 1.1</b> <b>Class 1.2</b> <b>Class 1.3</b> <b>Class 1.4</b> <b>Class 1.5</b> <b>Class 1.6</b>	<b>Class 1</b> Explosives <b>Division 1.1</b> <b>Division 1.2</b> <b>Division 1.3</b> <b>Division 1.4</b> <b>Division 1.5</b> <b>Division 1.6</b>
<b>Class 2</b> Gases <b>Class 2.1</b> Flammable gases <b>Class 2.2</b> Non-flammable, non-toxic gases <b>Class 2.3</b> Toxic gases	<b>Class 2</b> Gases <b>Division 2.1</b> Flammable gases <b>Division 2.2</b> Non-flammable, non-toxic gases <b>Division 2.3</b> Toxic gases
<b>Class 3</b> Flammable liquids	<b>Class 3*</b> Flammable liquids and liquid desensitized explosives
<b>Class 4</b> Flammable solids; substances liable to spontaneous combustion; and substances that in contact with water emit flammable gases <b>Class 4.1</b> Flammable solids <b>Class 4.2</b> Substances liable to spontaneous combustion <b>Class 4.3</b> Substances that in contact with water emit flammable gases	<b>Class 4*</b> Flammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases <b>Division 4.1*</b> Flammable solids, self-reactive substances and solid desensitized explosives <b>Division 4.2</b> Substances liable to spontaneous combustion <b>Division 4.3</b> Substances which in contact with water emit flammable gases
<b>Class 5</b> Oxidizing substances; organic peroxides <b>Class 5.1</b> Oxidizing substances <b>Class 5.2</b> Organic peroxides	<b>Class 5*</b> Oxidizing substances and organic peroxides <b>Division 5.1</b> Oxidizing substances <b>Division 5.2</b> Organic peroxides
<b>Class 6</b> Toxic and infectious substances <b>Class 6.1</b> Toxic substances <b>Class 6.2</b> Infectious substances	<b>Class 6</b> Toxic and infectious substances <b>Division 6.1</b> Toxic substances <b>Division 6.2</b> Infectious substances
<b>Class 7</b> Radioactive material	<b>Class 7</b> Radioactive material
<b>Class 8</b> Corrosive substances	<b>Class 8</b> Corrosive substances
<b>Class 9</b> Miscellaneous dangerous goods and articles	<b>Class 9*</b> Miscellaneous dangerous substances and articles

\* Note the subtle differences in coverage and/or expression

### 3. Classification, Packing and Transport of Infectious Substances

Controls for the transport of infectious substances, though approved by the ACTDG, were excluded from ADG6 due to administrative issues related to the introduction of template legislation in the ACT.

As an alternative, Commonwealth guidelines containing the provisions for Class 6.2 substances were made available in a Supplement to ADG6. (Guidance Notes for the Transport of Class 6.2 Infectious Substances Dangerous Goods, November 1997). Corresponding legislation was enacted only in Queensland and NSW, meaning that the transport of infectious substances such as live viruses and infectious diagnostic specimens has not been controlled under legislation based on the ADG Code except in those States.

The legislative constraint is no longer relevant.

Thus, while previous editions of the ADG Code included only basic information relating to the classification of what are now called substances of Division 6.2, ADG7 has adopted the full classification detail from UN15, in line with the international codes. This is found in Section 2.6.3 of Chapter 2.6.

Essentially, Division 6.2 is divided into two risk categories:

**Category A** where exposure may lead to permanent disability, life-threatening or fatal disease to otherwise healthy humans or animals.

Goods of Division 6.2 Category A are assigned to one of two UN Numbers:

- (i) UN 2814 *INFECTIOUS SUBSTANCES AFFECTING HUMANS*; or
- (ii) UN 2900 *INFECTIOUS SUBSTANCES AFFECTING ANIMALS ONLY*.

**Category B** infectious substances that do not meet the criteria for Category A

Goods of Division 6.2, Category B are themselves described either as:

- (i) UN 3373 *BIOLOGICAL SUBSTANCE, CATEGORY B*; or
- (ii) UN 3291 *CLINICAL WASTE UNSPECIFIED, N.O.S. or (BIO)MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S.*

Medical or Clinical Wastes that contain a Category A substance must, however, be assigned to UN 2814 or 2900 as applies:

Special Packing Instructions are referenced from all of these UN Numbers in the Dangerous Goods List in 3.2.3. For UN 3291 that is transported in dedicated transport units designed and approved to carry clinical wastes, there is a special Australian Packing Instruction P62A.

Placards are required on vehicles transporting:

- (a) any quantity of Category A; and
- (b)  $\geq 10$  kg(L) of Division 6.2 other than Category A.

## **4. Classification Criteria for Class 9, —Miscellaneous Dangerous Substances and Articles**

### **A. Environmentally Hazardous Substances**

While ADG6 included the entries:

–UN 3077 Environmentally Hazardous Substance, Solid, N.O.S.; and

–UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S.,

it provided no criteria by which substances could be assigned to these entries. While some substances were listed in Appendix 8, SP 179 indicated that substances would be designated by the Competent Authority. Few, if any, substances were so designated for transport in Australia.

Chapter 2.9 of ADG7 reproduces in full that chapter of UN15 and provides detailed criteria for the assignment of substances to Class 9 and those two UN Numbers. This will have the impact of substantially increasing the number of substances that are classifiable as dangerous goods of Class 9.

It is recognised, however, that the criteria are heavily weighted towards toxicity in an aquatic environment which is particularly relevant to transport by sea and to transport by rivers and canals as is common in many parts of Europe. Many of the materials that will now be classified are widely used as herbicides where low concentrations pose little if any land pollution concerns.

ADG7 has therefore followed a similar approach to that of the United States in that substances meeting the criteria of Chapter 2.9 will only be subject to the Code if transported in very large receptacles. This has been achieved through introduction of an Australian specific Special Provision [AU01] in Chapter 3.3, referenced from Column (6) of the Dangerous Goods List for these two entries. It exempts substances assigned to UN 3077 and UN 3082 from all requirements of the Code when transported by road or rail in any package, any IBC, or any other receptacle not exceeding 500 kg(L).

Note that while SP 179 still applies to these two entries, its text now aligns with UN15, indicating that these entries must be used for substances dangerous to the aquatic environment which are not covered by other entries and that they may be applied to some wastes designated under the Basel Convention or by the Competent Authority.

### **B. Genetically modified micro-organisms (GMMOs) and genetically modified organisms (GMOs)**

Class 9 also includes GMMOs and GMOs, that do not meet the definition of an Infectious Substance. Despite this the Code does not apply to GMMOs and GMOs that are authorised or exempt under other legislation (see 2.9.2.2).

### 5. The Dangerous Goods List

Like all previous editions of the ADG Code, ADG7 incorporates both a numerical listing of dangerous goods, based on the UN Number assigned to the goods, and an alphabetical listing, based on the Proper Shipping Name of the goods. Unlike in previous editions, however, and in line with the UN Model Regulations and the international modal codes, the technical details about the dangerous goods are incorporated in the numerical, rather than the alphabetical listing. This listing is referred to in UN15 and ADG7 as '*the Dangerous Goods List*'.

On the one hand, this will initially make it more difficult for chemical industry personnel to locate the correct entry when classifying goods. On the other, it will facilitate access to the details required by consignors, the transport industry and emergency responders.

Whereas these listings were previously in Appendices in Volume 2, they are now incorporated into the body of the Code, in Part 3, Chapter 3.2.

The Dangerous Goods List in Section 3.2.3 no longer incorporates the HAZCHEM Code or the Properties and Observations columns. Access to the HAZCHEM Codes, where allocated, is now provided in new Appendix C. The information in the previous Column 9 (Properties and Observations) has not been incorporated as it is not part of the UN system, with much of the information previously contained there now being provided by way of Special Provisions referenced from Column 6.

Additional columns have been added listing:

- 'Limited Quantities' for all dangerous goods entries, as discussed at 14. below;
- 'Packing Instructions' and 'Special Packing Provisions' for 'Packagings and IBCs', as discussed at 10. and
- 'Instructions' and 'Special Provisions' for 'Portable Tanks and Bulk Containers', as discussed at 11.

Significant changes in the Dangerous Goods List entries that impact on classification are listed on the next page.

Not listed here are the several hundred minor changes in Proper Shipping Names due to alignment with the UN listing. Of particular note:

- (a) Whereas in ADG6, the increasingly more common usage of 'f' rather than 'ph' in Sulfur and its derivatives was adopted, ADG7, to minimise changes necessary in adopting the UN listing, has reverted to 'Sulphur'. Both spellings are, however, acceptable on transport documentation, package marking and placards required by the Code (see 3.1.2.9).
- (b) The word 'Inhibited', where included in Proper Shipping Names, has been replaced by 'Stabilized'.

Changes in the Dangerous Goods List entries are summarised in 6. following.

## 6. Significant Changes in Dangerous Goods List Entries

### 1) UN Numbers Added:

- (a) New UN Numbers 3357 – 3481 inclusive, with the exception of 3372, to align with UN15.

Given that, with few exceptions, these entries will more accurately describe some dangerous goods that have historically been transported under other entries, there is an obligation under 2.0.2 and Chapter 3.1 to assign what is now the most appropriate entry.

- (b) In addition, all current UN numbers lower than 1000 (principally Class 1) have been included for completeness. In ADG6, these were included in the numerical listing in Appendix 1, but with some minor exceptions, were not in Appendix 2.
- (c) UN Numbers 0500 – 0504 inclusive are additional to those included in ADG6, however they are already included in the Australian Explosives Code, Second Edition. 0505 – 0508 have also been added to align with UN15, but use of these numbers in Australia will be subject to agreement by the relevant Competent Authority for the transport of Explosives.

### 2) UN Numbers Deleted:

0223\*, 2003, 2068\*, 2069\*, 2070\*, 2072\*, 2530, 3049, 3050, 3203, 3207 & 3353.

Substances and articles previously transported under these numbers will need to be assigned to the most appropriate current number and proper shipping name, using the rules in Chapter 3.1. There is no direct correlation between these numbers and those that should now apply. The listing of Generic and N.O.S. Proper Shipping Names in Section 3.2.6 may be of assistance.

\*Those deleted UN Numbers with an asterisk above are also listed in the Australian Explosives Code, Second Edition. Reference should be made to the relevant Competent Authority for the transport of Explosives regarding the continued use in Australia of those entries

Note that UN14 also obsoleted UN Numbers 1014, 1015, 1979, 1980, 1981, 2660, 2662 and 3435. However, as these are likely to still be in use in international transport, these are still included in ADG7, but with a requirement (see Special Provision AU05 in 3.3.3) that the use of these numbers must be phased out by 1 January 2011.

### 3) Changed Classification:

UN 2054 MORPHOLINE—	Now:	Class 8,	Sub-risk 3,	PG I
	previously:	Class 3,	no Sub-risk,	PG III

UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS	Now:	Class 5.1,	Sub-risks 6.1 & 8,	PGII
	previously:	Class 5.1,	Sub-risk 8,	PGII

UN 1017 CHLORINE —	Now:	Division 2.3;	Sub-Risks 5.1 & 8 <sup>†</sup>
	previously:	Class 2.3,	Sub-risk 8

### 4) Packing Groups —

- (a) **removed** (no longer applicable to Articles) from:

UN 2795, 2800, 3028 & 3316

- (b) **changed** (mainly additional options) for:

UN 1153, 1597, 1656, 1658, 1748, 1835, 1938, 2030, 2531, 2669, 2880 & 3319

<sup>†</sup> SP AU07 permits the transport of Chlorine without the subsidiary risk 5.1 label until 1 January 2011.

### 7. ‘Bulk’ and ‘Packaged’

ADG7 has aligned with UN and the international modal codes and where possible removed the artificial distinction between ‘bulk’ and ‘packaged’ dangerous goods and loads.

UN defines packagings as follows:

“**Packaging** means one or more receptacles and any other components or materials necessary for the receptacles to perform their containment and other safety functions.”

Unlike ADG6, there is no upper size limit to what constitutes packaged dangerous goods. Thus, except for placarding, ADG7 regards Intermediate Bulk Containers [IBCs] as packagings, as discussed further at 9. below.

Such terms as ‘bulk dangerous goods’ and ‘transport in bulk’ are no longer used in the Code, except with respect to solid dangerous goods as discussed at 8. below..

These changes impact on placarding, licensing, insurance and rail separation where, under ADG6, different obligations were created for loads including ‘bulk’ than for loads of only ‘packaged dangerous goods’.

The approach of ADG7 and the Model Subordinate Law to these issues is to invoke the additional requirements based on the type and size of receptacle in which the dangerous goods are transported. In most cases, e.g. for placarding with emergency information panels, they are invoked for all receptacles (immediate containers) with a capacity > 500 L or containing more than 500 kg of solid dangerous goods.

Alignment of these concepts was necessary in order to allow adoption of much of the UN text and thus facilitate future updates.

—See also discussions on ‘Bulk Containers’, ‘IBCs’, ‘Packing and IBC Instructions’ and ‘Portable Tank and Bulk Container Instructions’ following in this section.



## 8. 'Bulk Container'

The meaning of this term has changed completely.

Under ADG6, a 'Bulk Container' was effectively any container capable of transporting 'dangerous goods in bulk'. It included most IBCs and tanks.

In ADG7, as UN15, the term 'Bulk Container' is reserved for containment systems for solids. They are defined in detail in 1.2.1.2.2 of ADG7. The Code definition differs in expression, if not meaning, from that in UN15, to maintain uniformity with the Model Subordinate Law where rewording was required to ensure legal enforceability.

Following are some key considerations arising from the definition of bulk containers:

- Bulk containers are for solids only, and the solid material must be in direct contact with the container;
- They have a capacity of one cubic metre or more;
- They exclude items that meet Code requirements for other types of containment systems such as IBCs, Packagings and Large Packagings (see 9, 10 and 12 below), tanks and tank vehicles;
- They include such items as freight containers (when filled directly with the solid dangerous goods, without any packaging), hopper vehicles and tip-truck bodies.

There are very specific requirements for the use of bulk containers in Chapter 4.3. They must only be used for substances for which there is a Bulk Container Instruction in the Dangerous Goods List. Specific requirements for their design, construction, inspection and testing are provided in Chapter 6.8.

Essentially, like the concept of 'bulk' and 'packaged', this is a retraining issue for those versed in earlier editions of the Code. Code users will need to recognise that 'bulk container' no longer means any receptacle with a capacity of >450 L or 400 kg.

### 9. IBCs

As discussed at 6. above, Intermediate Bulk Containers are effectively treated throughout the Code as big packagings (not to be confused with ‘Large Packagings’ –see 12. below). The requirements for IBC use are included with those for packagings in Chapter 4.1 which also includes the relevant detailed Packaging and IBC Instructions. Requirements for their construction and testing are in Chapter 6.5.

One area where the ADG Code has historically been at variance with UN and all the international modal codes has been the Australian requirement for IBCs to be placarded with Emergency Information Panels [EIPs]. Internationally they have just been labelled as packages. It is claimed that this has led to difficulties for overseas suppliers, importers, exporters and their transporters, necessitating a number of exemptions either issued to industry groups or embodied in the text of the Code.

In the public comment draft of ADG7, to remove this inconsistency, the labelling and marking of IBCs were aligned with UN and the international codes. Had this survived public review, EIPs would no longer have been required on the IBC or on any freight container or vehicle in which they contain the only dangerous goods being transported. However this reform was strongly opposed by emergency responders on the belief that it resulted in a reduction in the immediate availability of useful information at an accident site or other suspected dangerous goods emergency.

Consequently, based on the weight of public comment, this change was reversed prior to publication. ADG7 therefore retains emergency information panels on IBCs > 500 kg(L) and the transport units in which they are transported. This also means the requirement to license vehicles and drivers transporting IBCs is retained. Licensing, however, remains subject to a continuing exemption for dangerous goods in IBCs with a total capacity of up to 3000 kg(L), provided the IBC is not filled or emptied when on the vehicle (see 18.1.2 of the MSL).

## 10. Packing and IBC Instructions

ADG7 has incorporated in Chapter 4.1 the detailed Packing and IBC Instructions from UN14, in common with the IMDG Code and most other international codes. These provide detailed instructions on the use of packagings, large packagings and IBCs.

To determine what (if any) packagings, large packagings and IBCs may be used, it is necessary to determine the applicable instructions by reference to Column 8 of the Dangerous Goods List in Section 3.2.3, for the particular UN Number and Packing Group (if any) of the dangerous goods item.

Packing Instructions are prefixed by the letters ‘P’, ‘IBC’ or ‘LP’ as follows:

- Packing Instructions prefixed ‘P’ (e.g. P002 or P601) are applicable to packagings other than IBCs and large packagings. ‘P’ Packing Instructions are found in sub-section 4.1.4.1.
  - Packing Instructions P001 —P099 apply to more than one class or division.
  - For Packing Instructions P101 —P907, the first numeral following ‘P’ indicates the Class of dangerous goods to which it applies.
- Packing Instructions prefixed ‘IBC’ (e.g. IBC08) apply to the use of IBCs and are in 4.1.4.2.
- Packing Instructions prefixed ‘LP’ (e.g. LP01) apply to large packagings and are found in 4.1.4.3. For further discussion of large packagings, see 12. below.

In general, Packing Instructions specify types of packagings, including single packagings, combination packagings and composite packagings, that may be used for packing the goods and the maximum capacity or quantity of the goods permitted. For combination packagings, requirements are specified for both inner and outer packagings. In some instances, intermediate packagings are also mandated.

For some dangerous goods, there are entries in Column 9 of the Dangerous Goods List. These indicate Special Packing Provisions that apply to the particular goods and are prefixed ‘PP’ for packagings other than large packagings and IBCs, ‘B’ for IBCs and ‘L’ for large packagings. The applicable Special Packing Provisions are incorporated within the body of the relevant Packing Instructions.

Special Packing Provisions may, for the particular dangerous goods to which they are assigned:

- (a) impose additional packing requirements;
- (b) conditionally exempt from one or more of the provisions of the Packing Instruction; or
- (c) impose additional transport requirements.

On initial viewing, Packing Instructions appear to reduce the packer’s flexibility in choosing appropriate packagings and packing methods. In practice, however, it is expected that few, if any, packing methods employed by industry for packing dangerous goods under ADG6 will be precluded by the Packing Instructions mandated under ADG7.

### Example.

Sodium Hypochlorite Solution, commonly used as a bleach, or a sanitiser for swimming pools.

The appropriate entry in the Dangerous Goods List in 3.2.3 includes:

UN No. (1)	Name and description (2)	Class or Division (3)	Packing Group (5)	Packing Instruction (8)	Special packing provisions (9)
<i>Ref</i>	<i>3.1.2</i>	<i>2.0</i>	<i>2.0.1.3</i>	<i>4.1.4</i>	<i>4.1.4</i>
1791	HYPOCHLORITE SOLUTION	8	II	P001 IBC02	PP10 B5
		8	III	P001 IBC03 LP01	

### For Packaging:

Reference to Packing Instruction P001 in 4.1.4.1 determines that a wide range of packagings is permitted, including:

- combination packagings to 400 kg, with a variety of inners and outers
- single packagings (drums to 450 L, jerricans to 60 L)
- composite packagings to 250 L

Special Packing Provision PP10 advises that for PG II material, the packaging must be vented.

### For IBCs:

When PG II, IBC02 in 4.1.4.2 permits a range of metal, rigid plastics and composite IBCs. The application of Special Provision B5 requires the IBC to be vented during transport.

When PG III, the provisions of IBC03 are similar except that an increased range of composite types is authorised and venting is not required.

### For Large Packagings:

For PG III only, LP01 in 4.1.4.3 permits glass, plastics or metal inners to be packed in a large outer packaging of a wide variety of compositions.

There is a particular safety issue regarding packing of Class 2 in cylinders.

In all States and Territories, legislation relating to pressure vessels applies to the filling of all cylinders, pressure drums, tubes, MEGCs and other pressure receptacles. In most cases, a requirement of that legislation is that they be filled in accordance with AS 2030. The requirements of that legislation have precedence over the Australian Dangerous Goods Code.

Packing Instruction P200 provides detailed instructions for the filling of gases into 'UN Pressure Vessels' that are made to ISO Standards. However, most cylinders in this country are made to Australian Standards. Others meet US, Canadian or British Standards. Filling AS, BS, DOT or CTC cylinders in accordance with Packing Instruction P200 may lead to an unsafe situation. Therefore, when using non-UN/ISO cylinders, if there is a discrepancy between a packing instruction in P200 and the equivalent requirement of AS 2030, the latter takes precedence.

—for a more detailed discussion, see the guide to Chapter 6.2 on page 31.

## 11. Portable Tank and Bulk Container Instructions –also has relevance to Tank Vehicles

Similar to Packing Instructions for dangerous goods in packagings, Portable Tank and Bulk Container Instructions must be referenced to determine:

- if the particular dangerous goods are permitted to be transported in portable tanks (e.g. tank containers), tank vehicles or bulk containers;
- the types of containers, tanks or vehicles that may be used; and
- any restrictions on that usage.

Under ADG6, transport of dangerous goods was permitted ‘in bulk’ unless there was a restriction on such carriage in column 9 of the list in Appendix 2. The decision making has been reversed. In ADG7:

- (a) Only if there is an entry in column 10 of the Dangerous Goods List in Section 3.2.3 that is prefixed ‘T’ (e.g. T23), may the particular dangerous goods be transported in:
  - (i) a portable tank, as specified in the particular Portable Tank Instruction in 4.2.5;
  - (ii) or a road tanker or rail tank wagon in accordance with Chapter 4.4.
- (b) Only if there is an entry in column 10 of the Dangerous Goods List in Section 3.2.3 that is prefixed ‘BK’ (e.g. BK1), may the particular dangerous goods be transported in a bulk container in accordance with Chapter 4.3.

### Using the same Example.

Sodium Hypochlorite Solution, commonly used as a bleach, or a sanitiser for swimming pools.

The appropriate entry in the Dangerous Goods List in 3.2.3 includes:

UN No. (1)	Name and description (2)	Class or Division (3)	Packing Group (5)	Portable tanks and Bulk containers	
				Instruction (10)	Special provisions (11)
<i>Ref</i>	<i>3.1.2</i>	<i>2.0</i>	<i>2.0.1.3</i>	<b>(10)</b>	<b>(11)</b>
1791	HYPOCHLORITE SOLUTION	8	II	T7	TP2 TP24
		8	III	T4	TP2 TP24

### For Portable Tanks:

For PG II material, reference to Portable Tank Instruction T7 in 4.2.5 indicates:

- this material is permitted in Portable Tanks;
- the minimum test pressure for the tank is 4 bar;
- what minimum shell thickness, pressure relief and bottom opening requirements apply.

Requirements for PG III (from T4) are similar except that test pressure is reduced to 2.65 bar.

In both instances:

- Special Provision TP2 gives rules for determining the degree of filling.
- TP24 provides for vapour space venting.

### For Road Tankers and Rail Tank Wagons:

Under 4.4.1.2, the existence of an entry in column (10) means that the transport of this substance in a tank vehicle is permitted.

The tank and vehicle must be selected in accordance with Chapter 4.4 and constructed, approved and tested in accordance with Chapter 6.9. For road transport, the appropriate standard of construction must be determined from Table 6.1 (following 6.9.2.1).

Study of the impacts of these changes indicates that few, if any substances that have actually been transported ‘in bulk’ in this country will be precluded from carriage in portable tanks, bulk containers or tank vehicles by the new approach.

## 12. Large Packagings / Unit Loads / Overpacks / Segregation Devices

Chapter 6 of ADG6 provided for the grouping and unitising of packages into unit loads. UN15 and hence ADG7 makes similar provisions (in Chapter 5.1, Section 5.1.2) concerning what are now described as ‘overpacks’.

Note that UN15 restricts the use of an overpack to a single consignor. That restriction has not been incorporated into ADG7. For road and rail transport only therefore, a freight forwarder or consolidator may, using overpacks, unitise packages from different consignments heading to the same location, provided this is in compliance with all other requirements of 5.1.2. However such multiple consignment overpacks may not be acceptable for sea or air transport.

ADG7 also introduces the UN concept of Large Packagings. Large Packagings are performance tested outer packagings having a maximum capacity of 3 m<sup>3</sup>. Their use is, with few exceptions, restricted to articles, or to solids and liquids of packing group III, packed in inner packagings. They may be used only where there is a Packing Instruction prefixed ‘LP’ applied to the particular dangerous goods in Column (8) of the Dangerous Goods List.

Construction and testing requirements for Large Packagings are found in Chapter 6.6.

ADG7, like previous editions, makes provision for segregating some incompatible goods in the one transport unit, using segregation devices. Previously the requirements for and rules for using segregation devices were included in a separately published Supplement to the Code. ADG7 now incorporates all these provisions into the body of the Code as follows:

- Conditions for use are in Chapter 9.2, specifically 9.2.2.6;
- Instructions for their use are prescribed in Section 4.4.5, in Part 4 along with usage requirements for all types of receptacles, packagings, containers, vehicles and equipment; and
- Specifications for segregation devices, together with testing, marking and approval requirements, are in Chapter 6.11.

## 13. Provisions for the Transport of Small Quantities

In ADG6, there were essentially two concessions made allowing for transport of small quantities of dangerous goods:

- (a) Provision was made for transport of small quantities for personal use or for use by trades through Clause 1.10 of the Road Regulations and Rail Rules. This provision effectively exempted transport of up to 25 % of a placard load from any of their provisions, and therefore from the application of the Code, provided the goods were not being transported by a person in the business of transporting the goods by road or rail.
- (b) Some concessional provision was made for the distribution of consumer commodities between retail distribution centres and retail outlets by 1.2.1 of ADG6.

ADG7 introduces a number of options for the transport of small quantities:

- A. Clause 1.1.6 of the Model Subordinate Law effectively repeats the exemptions provided in 1.10 of the ADG6 Road Regulations/Rail Rules;
- B. MSL Clause 1.1.7 exempts very small consignments of dangerous goods and dangerous goods in fuel tanks and similar necessary for the operation and safety of the vehicle;
- C. Chapter 7.3 of ADG7, based on 1.2.1 of ADG6, provides for Retail Distribution Loads; as discussed at 15. below.
- D. Chapter 3.4 of ADG7 introduces a whole new (to Australia) concept of Dangerous Goods Packed in Limited Quantities, as discussed in 14. below.
- E. Clause 1.1.8 of the Model Subordinate Law introduces Special Provisions for Tools of Trade. It permits concessional transport by a person other than in the business of transporting dangerous goods for use by the person or so that they can be used for a commercial purpose. This allows larger quantities of dangerous goods to be carried in trades' vehicle such as plumbers, electricians and pest control. It also allows such transport as samples by sales/marketing personnel.

Quantities permitted are up to an aggregate of 500 kg(L) provided there is no Division 2.3 (Toxic Gas), Division 2.1 (Flammable Gas –other than Aerosols) or Packing Group I. 250 kg(L) applies if any of those are present provided the aggregate of Division 2.3 + PGI is less than 100. This concession is subject to:

- (i) Packages being safely loaded, secured, segregated, transported and unloaded;
- (ii) Dangerous goods being packed and labelled in accordance with the Code with the packaging remaining fit for purpose;
- (iii) More than 250 aggregate of fire risk or toxic dangerous goods (Classes 3, 4, 5, 6) must not be transported in a passenger compartment or enclosed space not separated from the passenger compartment;
- (iv) More than 50 aggregate of Divisions 2.1 and 2.3 plus Packing Group I must not be transported in the passenger compartment or any other enclosed space on the vehicle.

## 14. Limited Quantities (Chapter 3.4)

The introduction of the “Limited Quantities” concept, through the partial adoption of Chapter 3.4 of UN14, is a significant departure from previous editions of the Code.

For each entry in the Dangerous Goods List in 3.2.3, there is a Limited Quantity entry in Column (7)<sup>‡</sup>. This specifies the maximum size of the inner packaging or article that can be packed, labelled, documented and transported in accordance with Chapter 3.4, thus being conditionally exempted from some of the more onerous provisions of the Code that apply to larger sizes. Limited Quantities range from ‘0’ for all Packing Group I, Division 2.1, Division 2.3 and some other high hazard substances, to 5 L or 5 kg for most Packing Group III substances.

Under Chapter 3.4, concessions apply to packing in outer packages with a gross mass  $\leq 30$  kg ( $\leq 20$  kg for shrink wrapped trays).

Limited Quantities are not limited to consumer commodities. Most substances of Packing Groups II or III are allocated a ‘Limited Quantity’ in the Dangerous Goods List, as are most gases of Division 2.2. It will therefore permit concessions across many more industries and transport tasks than 1.2.1 of ADG6, which was specifically designed for retail distribution.

The philosophy is also different in that it applies to any quantity of substances packed in ‘Limited Quantity’ sizes, rather than a limited aggregate quantity.

Normal transport documentation applies to Limited Quantity consignments unless transported in a Retail Distribution Load (see 14. following).

Vehicle and freight container placarding applies to the same quantities of dangerous goods packed in limited quantities as for most other loads of dangerous goods (see 16. following).

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<sup>‡</sup> Note that in UN15, Column 7 has been further sub-divided into 7a, for Limited Quantities and 7b for Excepted Quantities. ADG7 has not incorporated Excepted Quantity provisions.



## 15. Retail Distribution Loads (Chapter 7.3)

Chapter 7.3 provides for the incidental movement of small quantities of consumer dangerous goods intended for personal care or household use as part of a load of retail goods. It replaces ADG6 paragraph 1.2.1 that provided for Consumer Commodity Loads.

It applies only where the total load in the transport unit meets all of the characteristics for a 'Retail Distribution Load' prescribed by Section 7.3.1.

This Chapter has been designed to facilitate the inclusion of small quantities of dangerous goods in consignments to or from retail outlets or retail distribution centres where the total load is under centralised control.

A Retail Distribution Load meeting all the requirements of Chapter 7.3 is not a Placard Load.

7.3.2 provides for the option of a simplified pro-forma transport document which is included as Form B2 in Appendix B (derived from Figure 1.1 of ADG6).

7.3.3 permits conditional concessional marking and labelling of outer packagings at a retail outlet or retail distribution centre, using the Mixed Class label, incorporating exemptions provided to parts of the retail industry by the Competent Authorities Panel during the life of ADG6.

It must be stressed that the concessions provided by this chapter are conditional.

***—They apply only when the complete load in the transport unit meets all of the requirements for a Retail Distribution Load.***

A consignment that on its own would constitute a Retail Distribution Load cannot be consigned as such for transport in the same immediate transport unit as any other goods if the requirements of this chapter do not apply in full to the combined load in the transport unit. Conditions include:

- quantity limitations ( $\leq 2000$  kg(L) aggregate DG in the transport unit)
- the maximum proportion of dangerous goods (20 %)
- product limitations (LQ sizes except as detailed; suitable for retail and consumption by individuals for personal care or household use; restrictions on Class 6 and 8)
- everything consigned to or from a retail outlet or retail distribution centre.

In particular, the inclusion of any dangerous goods other than permitted by 7.3.1 would mean that none of the packing, marking, labelling, documentation or placard load concessions provided by this Chapter can be applied to the whole load or any part of it.

## 16. Placard Load/Placarding Trigger Points

In ADG6, many of the requirements of both the Regulations and the Code were tied to the concept of a ‘placard load’ which was defined in the Regulations. In ADG7, this approach has been retained except that the placard load definition is also in the body of the Code. Placard Load quantities are prescribed in Table 5.3 within Section 5.3.1 General Placarding Requirements.

The public comment draft incorporated significant changes in how a placard load was determined when dangerous goods of Divisions 2.1 or 2.3, or of Packing Group I, are included. These changes were rejected as a result of public comment. The changes in the trigger points from ADG6 to ADG7 are therefore confined to those necessary to align with terminology changes, in particular the usage of ‘bulk’, and to provide for lower hazard Division 6.2 substances.

The following summarises the changes, ignoring Class 1 which, being subject to the Australian Explosives Code, has not changed. (See also FAQ 5 and 6.)

<b>ADG6</b> (from Regulation 2.13)	<b>ADG7</b> (based on Table 5.3)
Vehicle placarding is required if the load includes:	Vehicle placarding is required if the load includes:
<ul style="list-style-type: none"> <li>• any ‘dangerous goods in bulk’<sup>§</sup>; or</li> </ul>	<ul style="list-style-type: none"> <li>• any DG in an immediate receptacle of individual capacity &gt; 500 kg(L) <sup>**</sup>; or</li> </ul>
<ul style="list-style-type: none"> <li>• ≥ 1000 kg(L) aggregate DG; or</li> </ul>	<ul style="list-style-type: none"> <li>• ≥ 1000 kg(L) aggregate DG; or</li> </ul>
<ul style="list-style-type: none"> <li>• ≥ 250 kg(L) aggregate DG where the load includes any quantity of:               <ul style="list-style-type: none"> <li>- Class 2.1 (other than Aerosols); or</li> <li>- Class 2.3; or</li> <li>- Packing Group I of any class; or</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• ≥ 250 kg(L) aggregate DG where the load includes any quantity of:               <ul style="list-style-type: none"> <li>- Division 2.1 (other than Aerosols); or</li> <li>- Division 2.3; or</li> </ul> </li> <li>• - Packing Group I of any class; or</li> </ul>
<ul style="list-style-type: none"> <li>• any quantity of Class 6.2</li> </ul>	<ul style="list-style-type: none"> <li>• any quantity of Division 6.2 Category A; or</li> <li>• ≥10 kg(L) of Division 6.2 other than Category A</li> </ul>

<sup>§</sup> Bulk as then defined (i.e. receptacles >500 L Class 2, > 450 L or > 400 kg otherwise)

<sup>\*\*</sup> Includes tank vehicles, portable tanks, IBCs, pressure drums, MEGCs and bulk containers

## GUIDE TO THE CODE

### PART 1 GENERAL PROVISIONS, DEFINITIONS AND INTERPRETATION

Part 1 is introductory and explanatory material, and is in two chapters.

#### Chapter 1.1 — GENERAL PROVISIONS

Chapter 1.1 includes the scope and application and draws attention to:

- conditional exemptions provided by the Model Subordinate Law for the transport of some dangerous goods that are:
  - particularly small quantities; or
  - required on the vehicle for operational purposes; or
  - incorporated in equipment; or
  - tools of trade;
- exclusion by the Model Subordinate Law of Classes 1 and 7;
- restrictions of dangerous goods in the mail; and
- dangerous goods forbidden from transport.

#### Chapter 1.2 — INTERPRETATION, DEFINITIONS, UNITS OF MEASUREMENT AND REFERENCES

1.2.1.1 contains a fairly comprehensive set of definitions of terms used throughout the Code. Most are from UN15 plus some remaining definitions from ADG6 for terms which are used in ADG but not UN.

Terms that are defined in the Regulations and used in the Code are defined consistently in both documents as follows:

- Those that are in the Definitions clause of the Regulations (1.2.1) are included in 1.2.1.1 of the Code.
- Those that are defined within the body of the Regulations have been reproduced in 1.2.1.2 of the Code with minimal rewording to suit their context of the Code.

In common with UN15, some terms that are used in a particular way only in one Part are defined at the beginning of that Part.

Chapter 1.2 also includes:

- a list of Codes and Standards that are referenced in the body of the Code;
- an explanation of the units of measurement used throughout the Code; and
- a listing of Australian Competent Authorities.

**Chapters 1.3, 1.4 and 1.5** have been reserved

- UN Chapter 1.3 addresses training. This was recognised as a regulatory issue rather than one for the Code.
- Chapter 1.4 of UN includes basic security provisions and a table indicating those high consequence dangerous goods where additional security measures may be warranted. It was not included in ADG7 as this issue is intended to be addressed in separate legislation.
- UN Chapter 1.5 relates only to Class 7 which is outside the scope of the Code.

## PART 2 CLASSIFICATION

Part 2 reproduces most of Part 2 of UN15, except for the introductory clause assigning responsibilities. It:

- divides dangerous goods with different hazards into different Classes and Divisions;
- assigns some dangerous goods to one of three Packing Groups indicating the degree of danger they present;
- explains the use of UN Numbers and Proper Shipping Names;
- indicates which hazards take precedence for substances and articles exhibiting more than one hazard; and
- in 2.0.4, provides rules regarding the transport of samples.

Each Class of dangerous goods has its own Chapter.

The various Class chapters consolidate all of the classification provisions including those than, in ADG6, were included in various Addenda to Appendices 2 and 3..

There is far more detail provided for the classification criteria of:

- Division 6.2 Infectious Substances (–see Item 3 of previous section, Key Changes); and
- Class 9 Miscellaneous Dangerous Substances and Articles (–see Key Changes, Item 4).

Note that the classification thresholds for assignment to Class 3 and to Division 6.1 have been varied slightly to align with UN14 and UN15 which, in turn, have aligned with the coming Globally Harmonised Scheme for classification and labelling of chemicals (GHS).

- The upper flashpoint for Class 3 is now 60.0°C, not 60.5 °C as in ADG6; and
- The thresholds for oral, dermal and inhalation toxicity LD<sub>50</sub> and LC<sub>50</sub> for Division 6.1 have been adjusted as detailed in the table at Code clause 2.6.2.2.4.1 which replaces the table in Addendum V to Appendix 3 in ADG6.

## **PART 3 DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND LIMITED QUANTITIES EXCEPTIONS**

### **Chapter 3.1 — GENERAL**

Chapter 3.1 outlines the purpose of the Dangerous Goods List and gives rules for the assignment of the Proper Shipping Name, including the use of generic and N.O.S. (not otherwise specified) names and the assignment of names to mixtures and solutions.

### **Chapter 3.2 — DANGEROUS GOODS LIST**

This Chapter contains four lists of dangerous goods:

- (a) Section 3.2.3, a list arranged in UN Number sequence, is the principal Dangerous Goods List from UN15. This list includes all classification details and provides references to special provisions, packing and tank provisions. This list is referred to throughout the Code as the “Dangerous Goods List”.
- (b) Section 3.2.4 is the alphabetical listing incorporating the Index of Substances and Articles from UN15. This Index tabulates only the Class or Division and the UN Number for each proper shipping name that is included in the Dangerous Goods List. Some commonly used synonyms are also included in lower case, providing a reference to the proper shipping name that must be used.
- (c) Section 3.2.5 lists some alternative names that are valid for land transport within Australia only (those [AUST.] entries that have been carried over from ADG6). It also includes conditions for their continued use, indicating that some will no longer be valid when the next edition of the Code is published. Use of those entries should be phased out over the life of ADG7.
- (d) Section 3.2.6 reproduces the List of Generic and N.O.S. Proper Shipping Names from Appendix A of UN15, similar to Appendix 8 of ADG6.

Unlike earlier editions of this Code, the principal listing of dangerous goods is in UN Number rather than alphabetical sequence. An explanation of the Structure of this list is included as Code Section 3.2.1.

### **Chapter 3.3 — SPECIAL PROVISIONS APPLICABLE TO CERTAIN ARTICLES OR SUBSTANCES**

This Chapter embodies Chapter 3.3 of UN15 which incorporates and updates the Special Provisions in Appendix 3 of ADG6. It also includes a small number of Special Provisions that are peculiar to land transport within Australia. These follow the UN sourced provisions and are identified by the letters ‘AU’ in their identifier; e.g. ‘AU03’.

Each Special Provision is numbered. They are referenced, where relevant, from Column (6) of the Dangerous Goods List in Section 3.2.3, and have a variety of purposes, as follows:

- (a) Some Special Provisions provide that under certain conditions, the goods to which they apply are ‘not subject to this Code’. For the purposes of this Code, those goods are not dangerous goods, provided any conditions included in the text of the Special Provision are met (e.g. SP 32, SP 37, SP 38, SP 39 and SP 47). In some instances, such goods that are ‘not subject to this Code’ are dangerous goods only when transported by sea or air (e.g. SP 106 and SP 117).
- (b) Some Special Provisions merely contain helpful information in relation to the goods (e.g. SP 23 and SP 182).

- (c) Some Special Provisions qualify an entry in the Dangerous Goods List, for example by specifying that:
  - (i) particular dangerous goods may be classified in a particular way (e.g. SP 63 and SP 210); or
  - (ii) the Packing Group for the goods is to be determined in a particular way (e.g. SP 172).
- (d) Some Special Provisions specify the way in which dangerous goods are to be packaged, marked and transported (e.g. SP 26, SP 28 and SP 133).
- (e) Some Special Provisions provide that the transport of goods to which the Special Provision applies may be prohibited under some circumstances (e.g. SP 48, SP 60 and SP 63(f)). For the purposes of the Code and Model Subordinate Law, when those conditions are met, those goods are goods too dangerous to be transported.
- (f) Some Special Provisions provide that a conduct in relation to the dangerous goods is prohibited unless “special authorization” is granted by a Competent Authority. Conduct of that description without such authorization is not in accordance with this Code (e.g. SP 48, SP 60 and SPAU03). Such authorization would usually take the form of an exemption or a determination under Regulation 1.6.1.
- (g) Some Special Provisions provide that the particular entry in the Dangerous Goods List may only be used under specified conditions (e.g. SP 178 and SPAU05) or that a particular entry must be used under specified circumstances (e.g. SP 179).
- (h) Some Special Provisions require the application of additional Subsidiary Risk labelling under specified circumstances (e.g. SP 162, SP 181 and SP 282), or conditionally exempt from the application of a Subsidiary Risk Label (e.g. SPAU07).
- (i) Some Special Provisions specify limits on composition that must be met for the entry to be used (e.g. SP 163, SP 292 and SP 307).
- (j) Some Special Provisions require that additional information, such as a ‘technical name’ must be included in package marking or on transport documentation (e.g. SP 274 and SP 318).
- (k) Some Special Provisions limit the levels of radioactivity that apply to an entry (e.g. SP 336 and SP 337).

### Chapter 3.4 — DANGEROUS GOODS PACKED IN LIMITED QUANTITIES

Chapter 3.4 (as discussed at Item 14. in the previous section of this Guide) provides concessions from some of the packing, labelling, documentation, placarding and transport provisions of the Code, for dangerous goods packed in ‘Limited Quantity’ sized inner packagings.

For each UN Number entry, the applicable quantity limit is provided in Column (7) of the Dangerous Goods List in Section 3.2.3.

- 3.4.2 – 3.4.5 inclusive indicate suitable packagings for Limited Quantities.
- 3.4.6 and 3.4.8 indicate the marking requirements for Limited Quantity packages.
- 3.4.7 indicates additional requirements for the transport documentation for sea or air transport.

Where the entry ‘0’ is in Column (7) for a particular entry in the Dangerous Goods List, that substance or article may not be transported under Limited Quantity provisions.

—see also FAQ 7. in the following section.

## **PART 4 PACKING, TANK, CONTAINER AND VEHICLE PROVISIONS**

Part 4 covers the use of packagings, IBCs, large packagings, portable tanks, MEGCs, bulk containers, vehicles, tank vehicles, freight containers and segregation devices. It should be read in conjunction with the relevant Chapters in Part 6 which provide the requirements for construction, testing and approval.

### **Chapter 4.1 — USE OF PACKAGINGS, INCLUDING INTERMEDIATE BULK CONTAINERS (IBCs) AND LARGE PACKAGINGS**

Chapter 4.1 includes general provisions for packing dangerous goods in packagings, including IBCs, and large packagings, and includes detailed Packing Instructions.

Section 4.1.4 details Packing Instructions that must be followed when packing any dangerous goods as follows:

- 4.1.4.1 –Packing Instructions covering the use of packagings (except IBCs and large packagings);
- 4.1.4.2 –Packing Instructions covering the use of IBCs; and
- 4.1.4.3 –Packing Instructions covering the use of large packagings.

Many of the Packing Instructions incorporate Special Packing Provisions which have similar status to the Special Provisions in Chapter 3.3.

A more detailed discussion of Packing Instructions is provided under Key Changes -Item 10.

Chapter 4.1 also includes additional Special Packing Provisions for particular types of dangerous goods:

- Classes 1, 2 and 7;
- Divisions 5.2 and 6.2;
- Self-Reactive Substances of Division 4.1.

### **Chapter 4.2 — USE OF PORTABLE TANKS AND MULTIPLE-ELEMENT GAS CONTAINERS (MEGCs)**

Chapter 4.2 includes provisions for the use of portable tanks and MEGCs, including some Class specific requirements. It also includes, in Section 4.2.5, detailed Portable Tank Instructions, similar to Packing Instructions.

For a more detailed discussion of these, see Key Changes -Item 11.

### **Chapter 4.3 — USE OF BULK CONTAINERS (FOR SOLIDS)**

See discussions under Key Changes -Items 7., 8. and 11.

Solid dangerous goods may be transported in a bulk container only if there is an entry in Column (10) of the Dangerous Goods List of either 'BK1' or 'BK2'.

### **Chapter 4.4 — USE OF VEHICLES, TANK VEHICLES, FREIGHT CONTAINERS, EQUIPMENT AND SEGREGATION DEVICES**

Chapter 4.4 applies the principles of Chapter 4.2 to the use of road and rail vehicles, containers and equipment. It also incorporates usage requirements for segregation devices based on 9.1.1 of ADG6. See also Key Changes -Items 11 and 12.

## PART 5 CONSIGNMENT PROCEDURES —INCLUDING LABELLING, MARKING AND PLACARDING

Part 5 is modelled on Part 5 of UN15, except that Chapter 5.4, which in UN covers documentation, has been reserved. In ADG7, as in ADG6, documentation provisions are in Part 11

### Chapter 5.1 — GENERAL PROVISIONS

Chapter 5.1 briefly addresses consignment procedures including the use of overpacks, identification of empty packagings and the marking of packages with two or more types of dangerous goods.. See discussion under Key Changes -Item 12

### Chapter 5.2 — MARKING AND LABELLING

ADG7 follows the UN15 approach and applies marking/labelling terminology as follows:

- **Label/Labelling** is reserved for the application of Class or Division labels, including Subsidiary Risk labels and, where permitted, Mixed Class labels, to packagings (single, outer, inner and large packagings and small IBCs < 500 kg(L)).
- **Placarding** is reserved for the placement of Class or Division labels, the Mixed Class placard/label and Emergency Information Panels onto transport units such as freight containers, portable tanks, bulk containers or vehicles, or onto other placardable units such as MEGCs and large pressure drums or IBCs.
- **Marking** is used to describe all other information that must be applied to packagings, large packagings and transport units, such as the Proper Shipping Name, UN Number, the Environmentally Hazardous Substance mark (Figure 5.2.2), Orientation Arrows (5.2.1.7) and the mark indicating carriage at elevated temperature (Figure 5.3.4) which, in ADG6, was described as a Subsidiary Risk Label.

Section 5.2.1 addresses the markings required on packagings, small IBCs and inner packagings. Larger IBCs (> 500 kg(L)) are placardable units, subject to Chapter 5.3.

Section 5.2.2 details labelling requirements and includes sample labels for all Classes and Divisions. There are some changes from ADG6 including:

- (a) Subsidiary Risk labels no longer differ from the label used to identify the same hazard as a primary risk. i.e. Labels used to denote a Subsidiary Risk must now incorporate the Class or Division number in the bottom corner.
- (b) The specification of sizes of labels required on gas cylinders in Table 5.2 has been aligned with international convention and ISO standard requirements.
- (c) Specimen labels in 5.2.2.2 include text describing the hazard of the Class or Division. However, while strongly encouraged, the inclusion of that text is now optional except for Class 7 and the Australian specific alternative label for Oxidizing Gases of Division 2.2 Sub risk 5.1, the use of which has now been extended to all such gases.
- (d) New alternative labels (Model Number 5.2(B)) are included for Division 5.2 Organic Peroxides. These labels, which have replaced 5.2(A) in UN14 and UN15, should be phased in over the next few years. They are now included in the IATA Regulations and IMDG Code and are increasingly being encountered in international consignments. The UN Committee has decreed that continued use of the old label 5.2(A) will be permitted only until 1 January 2011.



## Chapter 5.3 — PLACARDING AND MARKING OF TRANSPORT UNITS AND PLACARDABLE UNITS

### General

In common with UN15, those labels and marks that are intended to be used only on placardable units or transport units are displayed in Chapter 5.3 rather than Chapter 5.2. Chapter 5.3 also includes the requirements for, and completed examples of, Emergency Information Panels.

Placarding requirements for vehicles, freight containers and other transport units, though regrouped, are essentially unchanged from ADG6.

In ADG6, the placarding requirements were largely determined based on whether the goods were ‘in bulk’ or ‘packaged’ (see Key Changes –Item 7.), and whether or not there was a ‘placard load’.

In ADG7, placarding requirements are determined based on the size of receptacles or the quantities in the transport units in which the dangerous goods are transported. Chapter 5.3 now includes Table 5.3 which includes revised ‘trigger points’ for placarding (see Key Changes -Item 16.).

The term *Placardable Unit* has been introduced to describe any packagings and other containment systems that incorporate one or more receptacles which:

- have a capacity > 500 L; or
- contain > 500 kg.

*Placardable Units* include large IBCs, pressure drums, tubes, MEGCs and demountable tanks that would have been considered ‘bulk’ under ADG6.

Emergency Information Panels (EIPs) are required on all placardable units, on transport units in which they are transported and on portable tanks, tank vehicles and bulk containers. Where an EIP required on a vehicle is already on a placardable unit or transport unit such that it fulfils the function of the EIP on the vehicle, duplication is not required.

Provisions are included (in 5.2.1.1.2, 5.3.3.6 and 5.3.8) for loads that have been imported or are to be exported and are placarded in accordance with the IMDG Code, the ICAO Rules or IATA Regulations as applicable. Similar arrangements apply to loads being transported domestically involving a sea or air journey.

### UN Number Marking

There has been a change to the requirements for marking freight containers. ADG6 required the UN Number to be displayed on a freight container if all of the dangerous goods in the container have the one UN Number. UN15, on the one hand, extends this requirement to all transport units (e.g. every truck, rail wagon etc.). On the other, it only requires the UN Number if that one UN Number applies to the whole load in the container, not just the dangerous goods component. In 5.3.2, ADG7:

- (a) incorporates the full UN requirement for information; and
- (b) advises that it applies to transport units that might be transported by sea or air under the respective modal Codes; but
- (c) exempts all transport units that are to be transported only by road or rail within Australia.

### **Placarding Rail Wagons**

The placarding of rail wagons has been aligned with an exemption issued to the rail industry by the Competent Authorities Panel [EXEM 2000/65]. Essentially, where the dangerous goods are transported in freight containers, bulk containers or portable tanks that are placarded as required and the placards are clearly in view, no further placarding of wagons is required.

### **Chapter 5.4 — <Reserved>**

Chapter 5.4 of UN14 covers documentation which is in Part 11 of ADG7.

### **Chapter 5.5 — SPECIAL PROVISIONS FOR FUMIGATED UNITS**

Applies to all transport units (principally imported freight containers) that are transported under fumigation. Documentation and placarding of transport units (other than the fumigation warning sign) is not required for road and rail transport unless the transport unit contains other dangerous goods.

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

### **Chapter 6.1 — REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS (other than for division 6.2 substances)**

This chapter covers much of the material that was in Chapter 3 of ADG6. It includes the Code for designating types of packagings, marking provisions for tested packagings, construction and test requirements. Markings have been aligned with UN15. There are some changes, principally that some packagings (principally metal drums > 100 L) require duplicate markings on the bottom as well as the top or side.

### **Chapter 6.2 — REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PRESSURE RECEPTACLES, AEROSOL DISPENSERS AND SMALL RECEPTACLES CONTAINING GAS (GAS CARTRIDGES)**

It must be noted that all pressure receptacles used in Australia are subject to legislation relating to the use of pressure vessels. Chapter 6.2 must therefore be read in conjunction with the pressure vessel legislation applicable in the appropriate State or Territory.

Section 6.2.1 provides general requirements for the design, construction, inspection, test and approval of all pressure receptacles.

6.2.2 provides detailed requirements for 'UN Pressure Receptacles'. These are pressure receptacles constructed in accordance with specified ISO Standards. Particular note should be taken of the Introductory Note to the Section. The important issue is that cylinders that are designed under one set of specifications must be used and operated under the conditions for which they were designed.

- UN/ISO cylinders must be filled and operated in accordance with the applicable ISO Standards and Packing Instruction P200;
- Cylinders built to Australian Standards must be filled and operated in accordance with AS 2030 and its subordinate standards;
- Cylinders built to British Standards or North American DOT/CTC must be operated under the requirements laid down in either their specifications or corresponding operational provisions.

i.e. A cylinder must not be designed to one standard and operated under another operational standard.

Section 6.2.3 provides for pressure receptacles that are not UN Pressure Receptacles. This includes all gas cylinders made to Australian Standards and used in accordance with AS 2030. Provision for the use of these cylinders has also been built into Packing Instruction P200 in 4.1.4.1 which provides that AS 2030 takes precedence in the event of any discrepancy. In some instances, maximum pressures and filling ratios specified in P200 are greater than those permitted by AS 2030. Under no circumstances should the limits of AS 2030 be exceeded for cylinders made to Australian Standards.

Section 6.2.4 covers Aerosol Dispensers and Gas Cartridges.

### **Chapter 6.3 — REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF PACKAGINGS FOR DIVISION 6.2 SUBSTANCES**

There were no requirements for packagings for Division 6.2 substances in earlier editions of the ADG Code. The application of this Chapter may be subject to other legislation in the particular State or territory. See also Key Changes -Item 3.

### **Chapter 6.4 — <Reserved>**

Chapter 6.4 of UN15 covers packagings for Class 7 which is outside the scope of the Regulations.

### **Chapter 6.5 — REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF INTERMEDIATE BULK CONTAINERS**

Material in Chapter 6.5 was historically included in a separate document published as a Supplement to previous editions of the Code.

Chapter 6.5 includes a designatory code system for IBCs, construction requirements, marking and test requirements for all types of IBCs.

### **Chapter 6.6 — REQUIREMENTS FOR THE CONSTRUCTION AND TESTING OF LARGE PACKAGINGS**

Covers the requirements for large outer packagings for packages and articles used in accordance with Packing Instructions prefixed 'LP' in 4.1.4.3. See Key Changes –Item 12.

The test requirements of this Chapter are also applicable to Type 2 Segregation Devices. See discussion of Chapter 6.11.

### **Chapter 6.7 — REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF PORTABLE TANKS AND MULTIPLE-ELEMENT GAS CONTAINERS (MEGCS)**

Chapter 6.7 includes detailed provisions for different types of portable tanks for use with different types of dangerous goods.

Section 6.7.1 draws attention to the International Convention for Safe Containers and provides for technological advances.

Section 6.7.2 incorporates the UN15 requirements for portable tanks for other than Class 2.

Sections 6.7.3 & 6.7.4 are the requirements for portable tanks for gases with different physical properties. Like Section 6.7.5 which applies to MEGCs, their adoption is subject to pressure vessel legislation applicable in the State or Territory.

### **Chapter 6.8 — REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF BULK CONTAINERS**

This chapter covers the provisions for bulk containers, including freight containers and hopper vehicles, in which bulk solid material is transported in accordance with an entry prefixed 'BK' in column (10) of the Dangerous Goods List. Provisions are included for sheeted and closed bulk containers. See Key Changes –Items 8. and 11.

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**Chapter 6.9 — REQUIREMENTS FOR THE DESIGN, CONSTRUCTION, INSPECTION AND TESTING OF TANK VEHICLES**

This Chapter is largely sourced from Chapter 4 (particularly Divisions 4.4 and 4.5) of ADG6. It provides the technical requirements for tank vehicles used in accordance with Chapter 4.4.

**Chapter 6.10 — FREIGHT CONTAINERS**

Includes the relevant construction Standards from Chapter 5 of ADG6, the usage requirements of which are now in Chapter 4.4.

**Chapter 6.11 — SEGREGATION DEVICES**

Chapter 6.11 incorporates the technical requirements for different types of devices for segregating incompatible goods during transport. It is based on the document entitled 'Specifications for Segregation Devices' that was published separately as Supplement 3 to earlier editions of the ADG Code.

The use of segregation devices is governed by Section 4.4.5 and 9.2.2.6.

## **PART 7 PROVISIONS CONCERNING TRANSPORT OPERATIONS**

UN15 divides the provisions concerning transport operations into two chapters:

- Chapter 7.1 includes those provisions applicable across all transport modes; and
- Chapter 7.2 for modal specific requirements.

In the ADG Code context, all of these requirements are applicable to road and rail transport in Australia. The information in this Part has therefore been regrouped as indicated in the Introductory Note to Part 7. Where clauses have been renumbered from the UN, this is indicated.

IN ADG7, Part 7 comprises three chapters as follows:

### **Chapter 7.1 — TRANSPORT PROVISIONS**

Section 7.1.1 includes basic general loading provisions. Those UN provisions that relate to Stowage or Restraint have been relocated to Part 8.

Sections 7.1.2, 7.1.3, 7.1.8 and 7.1.9 have been reserved. In UN15: –7.1.2 briefly addresses segregation requirements which are covered in Part 9 of ADG7; –7.1.3 deals with explosives, –7.1.8 with radioactive materials; –7.1.9 contains reporting requirements for accidents and incidents which are dealt with in Part 14 of the Regulations.

Section 7.1.4 is an amalgamation of UN15 and ADG6 special provisions relating to the transport of Class 2 (9.3.2 in ADG6).

Sections 7.1.5–7 are UN sourced provisions applicable to the transport of self-reactive substances of Division 4.1, organic peroxides, other substances stabilized by temperature control and Class 6 substances.

Section 7.1.10, which applies to Division 4.3, is sourced from 9.3.4 of ADG6.

### **Chapter 7.2 — TRANSPORT OF EMPTY PACKAGINGS AND CONTAINERS**

7.2.1 is an application clause.

Sections 7.2.2, 7.2.3 and 7.2.4 have been reserved. In UN15, 7.2.2 addresses the transport of dangerous goods in portable tanks on vehicles which has been moved to Part 8 of ADG7; 7.2.3 applies to Class 7 and 7.2.4 relates to security measures

Sections 7.2.5 are Australia only provisions as follows:

7.2.5 provides for the transport of pre-labelled packagings etc..

7.2.6 provides rules for the transport of receptacles that have previously contained and are not free from dangerous goods.

7.2.7 permits the conditional transport of nominally empty storage tanks, in line with exemptions previously issued by the Competent Authorities Panel.

### **Chapter 7.3 — RETAIL DISTRIBUTION LOADS**

This is modelled on 1.2.1 of ADG6. See Key Changes –Item 15.

## **PART 8 STOWAGE AND RESTRAINT**

Chapter 8 of ADG6 specified requirements for vehicles, which are now split between Chapters 4.4 and 6.9, and insurance, the requirements for which have been consolidated in the Regulations.

This Part now incorporates an amalgamation of the stowage provisions of UN and ADG6.

### **Chapter 8.1 — STOWAGE AND RESTRAINT ON OR IN TRANSPORT UNITS**

Incorporates the general stowage provisions from 7.1.1 of UN15 and Division 9.3 of ADG6.

### **Chapter 8.2 — RESTRAINT OF TRANSPORT UNITS ON VEHICLES**

Provides rules for securing freight containers, bulk containers and portable tanks to vehicles based on 5.1.2 of ADG6 and 7.2.2 of UN15.

## **PART 9 SEGREGATION**

While based on Chapter 9 of ADG6, the material in this Part has been restructured and revised in response to industry and authority requests.

### **Chapter 9.1 — INCOMPATIBLE GOODS**

Chapter 9.1 establishes which goods are incompatible in transport. The detail previously included in Division 9.1 of ADG6 has been removed and incorporated into Table 9.1 which is similar to Table 9.2 of ADG6. Table 9.2 reproduces Table 9.1 of ADG6, providing specific examples of incompatible goods.

### **Chapter 9.2 — SEGREGATION**

Chapter 9.2 outlines requirements for segregating incompatible goods.

Section 9.2.2 details methods by which incompatible goods may be segregated by means of Separate vehicles, Separate freight containers, Packagings for segregation, Large packagings and Segregation devices.

Section 9.2.3 provides special segregation rules for particular high risk load combinations. It has particular application to their carriage on combination road vehicles and trains which, to the extent practicable, have been aligned. The detailed rail separation requirements of Division 9.2 of ADG6 have been simplified, based on input from the rail industry and international best practice.

Section 9.2.4 provides further rail requirements, including 9.2.11 of ADG6, providing for double stacking of freight containers on rail. It also includes simplified rules for the carriage of dangerous goods in or attached to passenger trains.

In the Public Comment draft, Chapter 9.3 provided the conditions for use and technical specifications for Segregation Devices. These have been relocated to Section 4.4.5 and Chapter 6.11 respectively.

**PART 10 BULK TRANSFER OF DANGEROUS GOODS**

Part 10 now includes the transfer into or out of receptacles on vehicles, of any solid, liquid or gaseous dangerous goods. The Public Comment draft had omitted solid dangerous goods from this Part in error.

**Chapter 10.1— TRANSFER EQUIPMENT**

Chapter 10.1 incorporates the provisions of Division 10.1 of ADG6, but extended beyond hose assemblies to cover all transfer equipment.

**Chapter 10.2 — TRANSFER REQUIREMENTS**

This chapter incorporates the requirements of Divisions 10.2, 10.3, 10.5, 10.6 and 10.7 of ADG6, regrouped for clarity.

Section 10.2.1 covers where to transfer dangerous goods (ex Division 10.2).

Section 10.2.2 (ex Division 10.3) addresses fire prevention. Unlike in ADG6 which prescribed minimum ignition source separation distances during transfer, ADG7 defers to the definitive Australian Standards for hazardous area determination. Ignition sources are not permitted during transfer in any hazardous area.

Section 10.2.3 (principally ex Division 10.5) covers general provisions applicable to all bulk transfer.

Section 10.2.4 (ex Division 10.6) has requirements specific to the transfer of gas.

Section 10.2.5 (ex Division 10.7) covers Class 3.

**Chapter 10.3 — ULLAGE AND MAXIMUM PERMITTED FILLING RATIO**

This Chapter is largely based on Division 10.4 of ADG6. The terminology regarding the permitted ullage in large tanks or compartments has been aligned with that of AS 2809.1. Similar UN15 sourced requirements for portable tanks are at 4.2.1.9.6.

Maximum permitted filling ratios for Class 2 liquids are now based on Portable Tank Instruction T50 in Chapter 4.2, rather than a specific table.



## **PART 11 DOCUMENTATION**

### **CHAPTER 11.1 — TRANSPORT DOCUMENTATION**

Note that what was referred to as ‘Shipping Documentation’ in ADG6 is now called ‘Transport Documentation’ throughout the Code.

Chapter 11.1 is an amalgamation of Chapter 5.4 of UN15 and Division 11.1 of ADG6.

Section 11.1.1 outlines the basic form of the transport document.

Section 11.1.2 specifies the content. Note that there are additional requirements regarding the contact telephone number and additional advice on the preferred sequence of entries of the dangerous goods description. It also outlines additional documentation requirements for: “N.O.S.” and other generic entries, limited quantities, salvage packages, elevated temperature substances, substances stabilized by temperature control, self-reactive substances, organic peroxides and infectious substances.

Section 11.1.3 includes a number of special documentation provisions covering:

- Empty receptacles. Further clarification is added to material sourced from 11.1.2 of ADG6 regarding prelabelled, as yet unused, containers.
- Indication of the location of dangerous goods on combination road vehicles.
- Amending documentation after unloading.
- Goods that are not subject to the Code but are dangerous goods when transported by air or sea.

Section 11.1.4 indicates where documentation must be carried in a road vehicle

Section 11.1.5 covering rail transport documentation incorporates alternative use of a train manifest, in line with Exemption Notice EXEM 2000/65 issued by CAP to the rail industry.

### **CHAPTER 11.2 — EMERGENCY INFORMATION**

Chapter 11.2 is a minor update of Division 11.2 of ADG6. For rail transport it permits an alternative to previously required emergency information.

## **PART 12 SAFETY EQUIPMENT FOR ROAD VEHICLES**

### **CHAPTER 12.1 — SAFETY EQUIPMENT FOR ROAD VEHICLES**

Chapter 12.1 is based on Chapter 12 of ADG6, updated in light of experience and regrouped for clarity.

## **PART 13 PROCEDURES DURING ROAD TRANSPORT**

### **CHAPTER 13.1 — PROCEDURES DURING ROAD TRANSPORT**

Chapter 13.1 is a minor revision only of Chapter 13 of ADG6, renumbered and with headings revised for consistency.

## APPENDICES

### APPENDIX A — GOODS TOO DANGEROUS TO BE TRANSPORTED

Appendix A incorporates Appendix 5 of ADG6.

### APPENDIX B: — FORMS

Figure B1 Reproduces the Multimodal Dangerous Goods Form from UN15. This form is suitable for use as Dangerous Goods Transport Documentation in accordance with Part 11, as well as for intermodal use for sea transport. Documentation in this format is mandated by some of the international Codes, but its use is not mandated for land transport within Australia, Chapter 11.1 permitting greater flexibility consistent all previous Code editions.

Figure B2 is a generic form which can be used as a template when consigning and transporting a retail distribution load in accordance with Chapter 7.3.

Figure B3 is an updated pocket card explaining the application of the revised Hazchem Code system (see discussion of Appendix C below)

In the Public Comment, Appendix B was the *List of Common Pesticides with Corresponding UN Numbers*, reproduced from Appendix 9 of ADG6. This has been removed as it was not up-to-date and is no longer supported in UN14 or UN15.

### APPENDIX C — EMERGENCY ACTION CODES

HAZCHEM Codes are no longer incorporated in the Dangerous Goods List in Chapter 3.2. Appendix C incorporates the latest UK listing of HAZCHEM Codes.

There are some significant changes in the HAZCHEM system. In particular, the use of a reverse print second character, indicating that breathing protection is required only in event of fire, has been discontinued.

Another significant change is the introduction of a bullet preceding the numeral 2 or 3 for some substances. This indicates that alcohol resistant foam is the preferred fire-fighting medium.

Also included in this Appendix is the Hazard Identification Number (HIN) as used in Europe to provide additional hazard information about the load. Note that this is provided for information only, to assist in interpreting signs that may be encountered on imported loads of dangerous goods.

### APPENDIX D — CODE OF PRACTICE FOR REPROCESSING STEEL DRUMS

This Appendix reproduces the similarly named Document previously published as Supplement 1 to previous editions of the Code. It incorporates a pictorial guide to assist in drum selection.

## FREQUENTLY ASKED QUESTIONS

### FAQ 1. —HOW DO I?.....

#### ***DETERMINE IF A SUBSTANCE IS DANGEROUS GOODS AND ITS CLASSIFICATION?***

Step	Action	<i>Additional Guidance</i>	References
1.	Look up the chemical name of the substance in the Alphabetical Dangerous Goods List in 3.2.4	<i>If it is not found under that name, try all known synonyms and alternative names</i>  <i>If listed, then the substance is dangerous goods (unless it can be demonstrated that it does not meet classification criteria). Note the corresponding UN Number and Class and go to Step 4</i>  <i>If not found, continue at Step 2</i>	3.2.4
2.	Determine if the substance meets any of the classification criteria	<i>You will need to know the physical and chemical properties of the substance</i>  <i>First check the summary of Classes and Divisions in 2.0.1.1 to determine which Class may be applicable</i>  <i>Then examine the appropriate Chapter in Part 2 for that Class to determine if it is applicable</i>  <i>If it meets any of the criteria, then it is almost certainly dangerous goods</i>	Part 2  2.0.1.1  Chapters 2.2 –2.9
3.	Determine the UN Number and Proper Shipping Name	<i>The most appropriate number and name must be assigned, based on the rules in Section 2.0.2 and Chapter 3.1 Particular note should be taken of the precedence of entries discussed in 2.0.2.8</i>  <i>Further assistance can be obtained from the List of generic and N.O.S. entries in 3.2.6</i>  <i>Where the substance has properties that may include it under more than one Class or Division, refer to the Precedence of Hazard Characteristics in 2.0.3</i>	2.0.2 3.1.1 –3.1.3  2.0.2.8 3.2.6  2.0.3.1 – 2.0.3.3, 2.2.2.2
4.	Look up the UN Number in the Dangerous Goods List in 3.2.3	<i>Note the Proper Shipping Name, Class or Division, any Subsidiary Risk, any Packing Group and any Special Provisions</i>	3.2.3
5.	Look up every Special Provision listed in Column (6) for the particular entry	<i>Some Special Provisions indicate that the listed goods are not subject to the Code (i.e. are not dangerous goods) under the conditions indicated. Others give advice regarding Packing Group, or require that some Proper Shipping Names must be supplemented with additional information</i>	3.2.3 Chapter 3.3
6.	If more than one Packing Group is shown for the UN Number, determine the correct Packing Group	<i>Go to the Chapter in Part 2 that applies to the particular Class or Division. Apply the appropriate rules in that Chapter for assignment of Packing Groups</i>	Chapters 2.3 –2.9

**FAQ 2. —HOW DO I? .....**

***DECIDE HOW TO PACK MY DANGEROUS GOODS?***

<b>Step</b>	<b>Action</b>	<b>Additional Guidance</b>	<b>References</b>
<b>1.</b>	Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.3, in UN Number sequence.	<i>If the UN Number is not known, see first FAQ 1</i>	3.2.3
<b>2.</b>	Determine if the goods are in Limited Quantities	<i>If the goods are (to be) packed in inner packagings not greater than the size specified in Column (7), these goods may be packed as Limited Quantities in accordance with Chapter 3.4, as an alternative to full compliance —See FAQ 7</i>	3.2.3 Column (7)
<b>3.</b>	Determine the appropriate Packing Instruction from Column (8) and any applicable Special Packing Provision from Column (9)	<i>If the goods are to be packed in packagings, the applicable Packing Instruction will be prefixed 'P', e.g. P001 or P200</i>  <i>If the goods are to be transported in IBCs, the applicable Packing Instruction will be prefixed 'IBC', e.g. IBC02</i>  <i>If you wish to pack the goods in large outer packagings, the applicable Packing Instruction will be prefixed 'LP', e.g. LP01</i>	3.2.3 Columns (8) & (9)
<b>4.</b>	Look up that Packing Instruction in Section 4.1.4 and determine the appropriate packing method	<i>Only packagings of the types and sizes permitted by the Packing Instruction may be used</i>  <i>Any Special Packing Provisions included in the Packing Instruction are applicable only to those dangerous goods where they are referenced from Column (9) of the Dangerous Goods List</i>	4.1.4.1– ('P' & 'PP') 4.1.4.2– ('IBC' and 'B') 4.1.4.3– ('LP' and 'L')
<b>5.</b>	Determine what general packing provisions are applicable from the opening paragraphs of the Packing Instruction	<i>Depending on which general packing provisions are specified, the individual packagings may or may not be required to comply with Part 6</i>  <i>In particular, unless 4.1.1.3 is specifically excluded, each packaging must conform to a design type successfully tested in accordance with Part 6</i>	

## FAQ 3. —HOW DO I? .....

***DETERMINE WHAT PACKAGE LABELLING AND MARKING IS REQUIRED?***

<b>Step</b>	<b>Action</b>	<b>Additional Guidance</b>	<b>References</b>
<b>1.</b>	Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.3, in UN Number sequence	<i>If the UN Number is not known, see first FAQ 1 Note the Proper Shipping Name, Class or Division and any Subsidiary Risk</i>	3.2.3 Columns (1–4)
<b>2.</b>	Determine if Inner Package marking and labelling is required	<i>Refer to the Table at 5.2.1.6 If the quantity in the inner packaging exceeds the tabulated quantity:</i> <ul style="list-style-type: none"> <li>• <i>the Proper Shipping Name (or the technical name); and</i></li> <li>• <i>the Class or Division label; and</i></li> <li>• <i>any Subsidiary Risk label</i></li> </ul> <i>must be displayed, – unless the inner packaging is marked and labelled in accordance with the Globally Harmonised System (GHS)</i>	Table 5.1  5.2.1.6 5.2.2.1.14
<b>3.</b>	Determine if the goods are in Limited Quantities	<i>If the goods are (to be) packed in inner packagings not greater than the size specified in Column (7), these goods may be packed and marked as Limited Quantities in accordance with Chapter 3.4, as an alternative to full compliance –see FAQ 7</i>	3.2.3 Column (7)
<b>4.</b>	Determine what Class or Division labels must be displayed	<i>The label indicating the primary hazard of the substance or article (from Column (3) of the Dangerous Goods List) must be displayed Labels indicating any and every Subsidiary Risk from Column (4), or as required by any applicable Special Provision (from Column (6)) must also be displayed except as provided in 5.2.2.1.3.1 Labels must be next to each other on a contrasting surface</i>	5.2.2.1 3.2.3 Column (3) 3.2.3 Column (4) 5.2.2.1.3.1 5.2.2.1.8
<b>5.</b>	Determine what outer package marking is required	<i>Proper Shipping Name and UN Number (prefixed ‘UN’) must be displayed If Special Provision 274 applies to the dangerous goods (Column (6) of Dangerous Goods List), the Proper Shipping Name must be supplemented by the Technical Name Other qualifiers may need to be added to the Proper Shipping Name in accordance with 3.1.2 and 3.1.3 Marking and labelling must be near each other on the same surface of the package</i>	5.2.1.1 3.1.2.8 3.1.2 3.1.3 5.2.2.1.6
<b>6.</b>	Determine the appropriate label and print sizes	<i>Minimum label dimensions and recommended print sizes are in Table 5.2</i>	5.2.2.1.9 Table 5.2

**FAQ 4. —HOW DO I? .....**

***DETERMINE IF DANGEROUS GOODS ARE INCOMPATIBLE?***

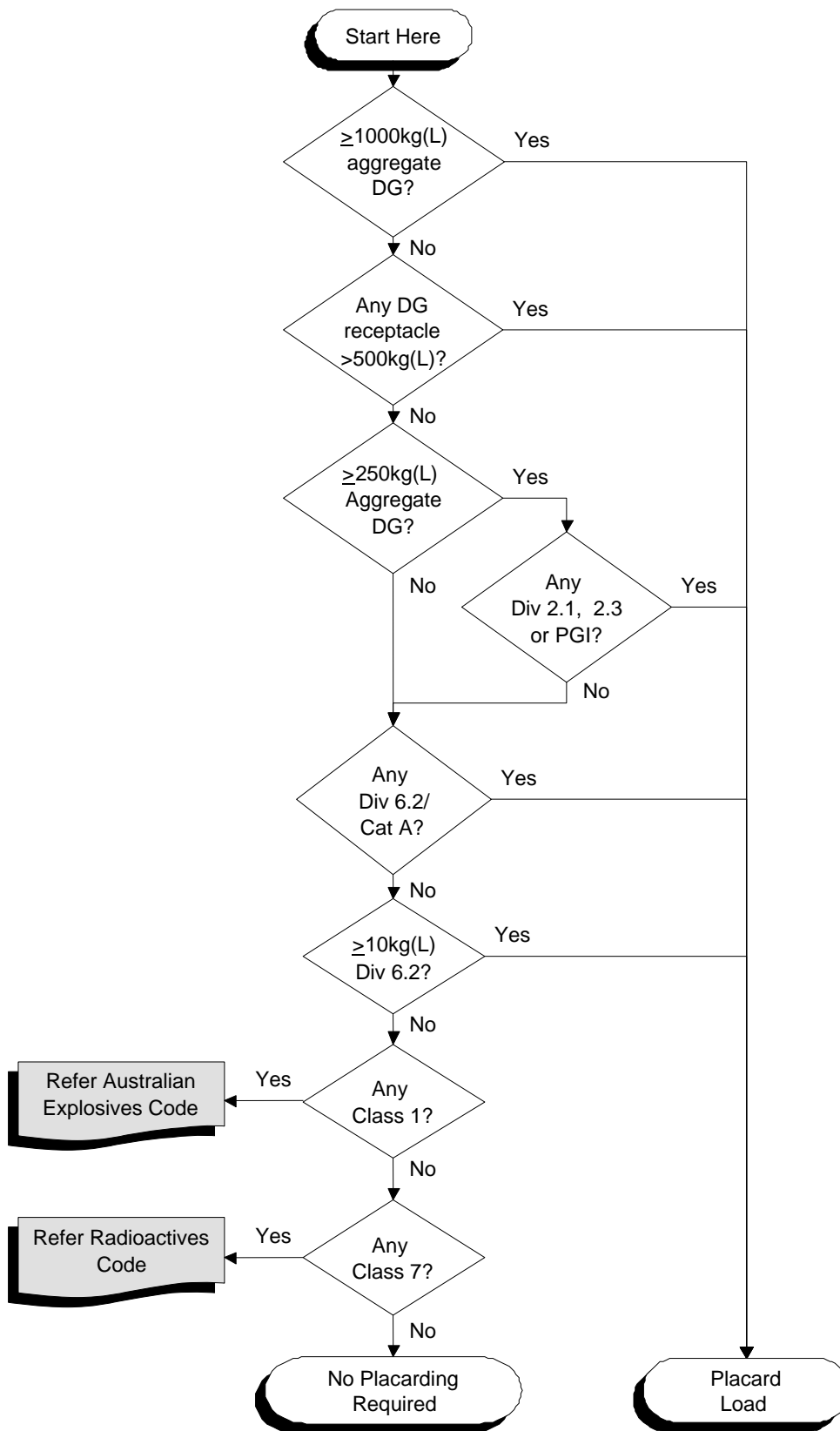
<b>Step</b>	<b>Action</b>	<b>Additional Guidance</b>	<b>References</b>
1.	Determine the Class or Division and any Subsidiary Risks for each of the dangerous goods	<i>Refer to the Dangerous Goods List by UN Number in 3.2.3</i> <i>If the UN Number is not known, see first FAQ 1</i>	3.2.3 Columns (3 & 4)
2.	From Chapter 9.1, check the compatibility of each pair of goods	<i>Two dangerous goods items are incompatible if</i> <ul style="list-style-type: none"> <li>• <i>the primary hazard of one is shown as incompatible with the primary hazard of the other;</i></li> <li>• <i>the primary hazard of one is incompatible with the subsidiary risk of the other; or</i></li> <li>• <i>the subsidiary risk of one is incompatible with the subsidiary risk of the other</i></li> </ul>	Chapter 9.1 9.1.2 Table 9.1
3.	Check for any specific incompatibilities in Table 9.2	<i>This is not an exhaustive list of such incompatibilities</i>	9.1.3 Table 9.2
	<b><u>Suggested Additional Checks</u></b>		
4.	Determine if there are any additional specific compatibility issues identified on the (Material) Safety Data Sheets (MSDS) of each item where available	<i>Note that the Code has adopted the GHS terminology of 'Safety Data Sheet'</i>	MSDS
	<b><u>Optional Additional Check</u></b>		
5.	Using information from the Material Safety Data Sheets, or through testing, determine if it can be established that, in spite of the outcome of Steps 1. and 2. above, the goods are not incompatible	<i>See Note 1 to 9.1.2.1</i>	9.1.2.1

**FAQ 5. —HOW DO I? .....**

***DETERMINE WHEN MY VEHICLE REQUIRES PLACARDING?***

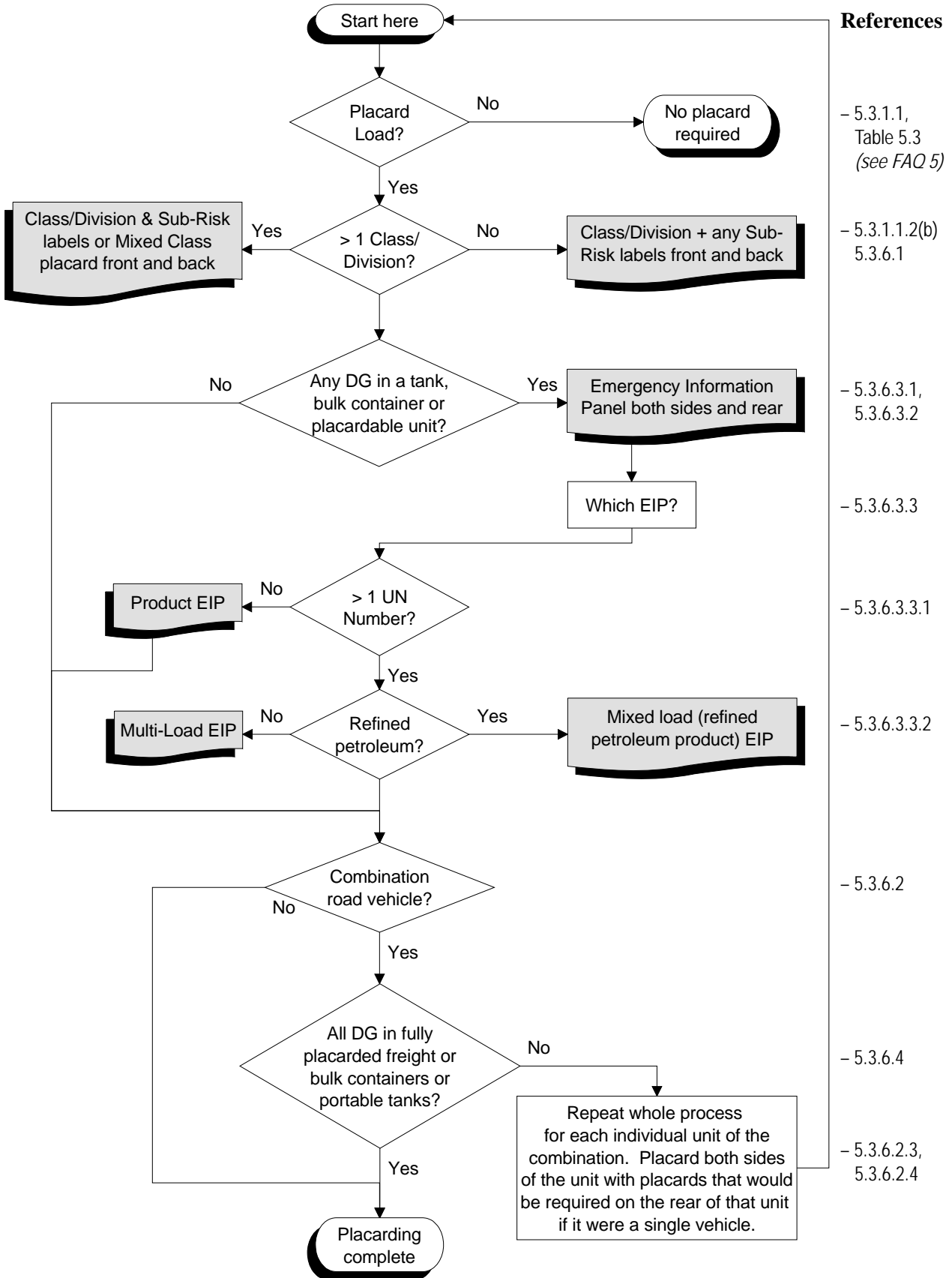
**References**

- 5.3.1.1
- Table 5.3



**FAQ 6. —HOW DO I? .....**

***DETERMINE WHAT PLACARDING IS REQUIRED ON MY VEHICLE?***



**References**

- 5.3.1.1, Table 5.3 (see FAQ 5)

- 5.3.1.1.2(b) 5.3.6.1

- 5.3.6.3.1, 5.3.6.3.2

- 5.3.6.3.3

- 5.3.6.3.3.1

- 5.3.6.3.3.2

- 5.3.6.2

- 5.3.6.4

- 5.3.6.2.3, 5.3.6.2.4



## FAQ 7. —HOW DO I? .....

**PACK SMALL QUANTITIES OF DANGEROUS GOODS?**

Step	Action	Additional Guidance	References
1.	Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.3, in UN Number sequence	<i>If the UN Number is not known, see first FAQ 1</i>	3.2.3
2.	Determine if the goods are in Limited Quantities	<i>If the goods are (to be) packed in inner packagings greater than the size specified in Column (7), or if the entry is '0' (except where 3.4.12 applies) these goods may not be packed as Limited Quantities Refer to FAQ 2</i>	3.2.3 Column (7) 3.4.12
3.	Pack in accordance with Chapter 3.4	<i>Except for articles, such as Aerosols, Dangerous Goods in Limited Quantities must be packed in inner packagings and suitable outer packagings</i> <i>Gross mass must not exceed 30 kg</i> <i>If packed in shrink or stretch wrapped trays, gross mass must not exceed 20 kg</i> <i>Liquids of Class 8, PG II in glass, porcelain or stoneware require rigid intermediate packaging</i> <i>Different dangerous goods may be in the same outer provided they will not interact dangerously</i>	Chapter 3.4 3.4.2 3.4.3 3.4.4 3.4.5
4.	Determine if Inner Package marking and labelling is required	<i>Refer to the Table at 5.2.1.8</i> <i>If the quantity in the inner packaging exceeds the tabulated quantity:</i> <ul style="list-style-type: none"> <li>• <i>the Proper Shipping Name (or the technical name); and</i></li> <li>• <i>the Class or Division label; and</i></li> <li>• <i>any Subsidiary Risk label</i></li> </ul> <i>must be displayed,</i> <i>– unless the inner is labelled and marked as required by the GHS or the hazard information is conveyed by a European rectangular label incorporating substantially the same hazard pictogram</i>	5.2.1.8 5.2.1.8 5.2.2.1.13 5.2.2.1.13.2
5.	Determine what marking is to be applied	<i>Dangerous Goods in Limited Quantities may be marked and labelled as a normal package of dangerous goods –see FAQ 3</i> <i>Alternatively, the UN Numbers of all dangerous goods in the package, prefixed 'UN' must be displayed in numerals at least 6 mm high, enclosed in a diamond having a border of at least 2 mm line width</i>	3.4.6 3.4.8 3.4.8
6.	Determine Transport Documentation requirements	<i>If exempt transport, no documentation required</i> <i>If transported in a retail distribution load, see Chapter 7.3</i> <i>On dangerous goods transport documentation used for sea or air transport, the description of the consignment must include the words 'limited quantity' or 'LTD QTY'</i> <i>Otherwise normal documentation</i>	Reg 1.1.10 7.3.2 Figure B2 3.4.7 (Note) Chapter 11.1

*Note that packing as Limited Quantities in accordance with Chapter 3.4 is only an option. The alternative is to pack fully in accordance with the Code —see FAQ 2.*

## TABLE OF CORRESPONDENCE *ADG6 — ADG7*

The following table gives some indication as to where in ADG7 to locate information based on ADG6 references.

ADG6 Ref.	Subject	ADG7 Refs.	Comment
<b>CHAPTER 1</b>	<b>INTERPRETATION AND APPLICATION</b>	<b>PART 1</b>	<b>GENERAL PROVISIONS, DEFINITIONS, AND INTERPRETATION</b>
<b>Division 1.1</b>	Interpretation	Chapter 1.2	
1.1.1	Interpretation	1.2.0	
1.1.2	References to Road Regulations and Rail Rules	1.2.0 1.2.1.2	
1.1.3	Definitions	1.2.1.1 1.2.1.2	Also includes many new or changed definitions sourced from UN15
1.1.4	List of codes, standards and rules referred to in this Code	1.2.3.1 Table 1.1	
1.1.5	References to other codes, standards and international rules	1.2.3.2	
1.1.6	Competent Authorities	1.2.4	
<b>Division 1.2</b>	Application of this Code		
1.2.1	Consumer commodity loads	Chapter 3.4 Chapter 7.3	Limited Quantities –see Key Changes Item 14 Retail Distribution Loads –see Key Changes Item 15.
<b>Chapter 2</b>	<b>CLASSIFICATION AND OTHER KEY CONCEPTS</b>	<b>PART 2</b>	<b>CLASSIFICATION</b> ADG7 has much more detail from UN15, and incorporates all of the info in the Addenda to ADG6 Appendices 1,2 & 3. Some of the Key Concepts are in Chapter 3.1
2.0.1	Introduction	Chapter 2.0	—see Introductory Note
<b>Division 2.1</b>	Classification of dangerous goods		
2.1.0	Purpose of classification of dangerous goods	2.0.1	Greater detail provided
2.1.1	Class 1 - Explosives	Chapter 2.1	UN Chapter 2.1 reproduced in full, <i>–for info. only as outside scope of MSL</i>
2.1.2	Class 2 - Gases	Chapter 2.2	UN Chapter 2.2 reproduced in full
2.1.3	Class 3 - Flammable liquids	Chapter 2.3	UN Chapter 2.3 reproduced in full
2.1.4	Class 4 - Flammable solids; substances liable to spontaneous combustion; and substances that in contact with water emit flammable gases	Chapter 2.4	UN Chapter 2.4 reproduced in full
2.1.5	Class 5 - Oxidizing substances; organic peroxides	Chapter 2.5	UN Chapter 2.5 reproduced in full
2.1.6	Class 6 - Toxic and infectious substances	Chapter 2.6	UN Chapter 2.6 reproduced in full
2.1.7	Class 7 - Radioactive material	Chapter 2.7	UN Chapter 2.7 reproduced in full, <i>–for info. only as outside scope of MSL</i>
2.1.8	Class 8 - Corrosive substances	Chapter 2.8	UN Chapter 2.8 reproduced in full
2.1.9	Class 9 - Miscellaneous dangerous goods and articles	Chapter 2.9	UN Chapter 2.9 reproduced in full
2.1.10	Combustible liquids	—	This requirement no longer applies
<b>Division 2.2</b>	Naming dangerous goods	2.0.2 3.1.2	–General information –Specific detail
2.2.1	Proper shipping name	2.0.2 + 3.1.2	
2.2.2	N.O.S. and generic entries	2.0.2.8	
2.2.3	Technical name	3.1.2.8	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
2.2.4	Names for mixtures	3.1.2.8.2	
<b>Division 2.3</b>	Other classification principles		
2.3.1	Classification of solutions and mixtures	3.1.3 2.0.2.5–7, 3.1.2.8.1	–The specific information –Additional detail and explanation
2.3.2	Assignment to Packing Groups	2.0.1.3	Note that Division 5.2 and self-reactive subs. of Div. 4.1 are no longer assigned Packing Groups whereas some substances of Division 6.2 are. Articles are also excluded from Packing Group
2.3.3	Precedence of hazard characteristics	2.0.3 2.2.2.2	Note there are some changes in the primary hazards that always take precedence –Covers gases from 2.3.3(2) of ADG6
Table 2.1		2.0.3.3	
<b>CHAPTER 3</b>	<b>PACKAGING</b>	Chapter 4.1 + Chapter 6.1	–General packing requirements and detailed Packing Instructions –Requirements for packagings
<b>Division 3.1</b>	Application and outline of Chapter		
3.1.1	Application	6.1.1.1	
3.1.2	General requirements	Chapter 4.1	These general requirements have effectively been replaced in much more detail by the Packing Instructions, as referenced from the DG List and detailed in 4.1.4
3.1.3	Performance testing and marking	—	These were only guides to other clauses
3.1.4	Packaging construction		
3.1.6	Used packagings		
3.1.5	Salvage packagings	4.1.1.17	
<b>Division 3.2</b>	Definitions		There were no requirements in Division 3.2
<b>Division 3.3</b>	General packaging requirements	4.1.1	
3.3.1	Suitability of packaging	4.1.1.1	
3.3.2	Compatibility of packaging and its contents	4.1.1.2	
3.3.3	Design type testing	4.1.1.3	
3.3.4	Filling of liquids	4.1.1.4	
3.3.5	Packing of inner packagings	4.1.1.5	
3.3.6	Compatibility of dangerous goods in outer packaging	4.1.1.6	
3.3.7	Wetted or diluted substances	4.1.1.7	
3.3.8	Venting	4.1.1.8	
3.3.9	Condition of packaging	4.1.1.9	
3.3.10	Pressure resistance	4.1.1.10	
3.3.11	Used empty packaging	4.1.1.11	See also 5.1.3 and 7.2.6
3.3.12	Leakproofness testing	4.1.1.12 6.1.1.3	The exemption provided for batteries in 3.3.12(5) is no longer required as this testing now only applies to packagings, not articles
3.3.13	Packagings for solids in liquid state	4.1.1.13	
3.3.14	Quality assurance	6.1.1.4	Now also refers to AS ISO 16106
3.3.15	Salvage packagings	4.1.1.17	
3.3.16	Technological advances	6.1.1.2	
3.3.17	Use of packagings suitable for lesser Packing Group	6.1.3 4.1.1.5.1	A detailed explanation is in Note 3 at the start of Section 6.1.3
<b>Division 3.4</b>	Type designator	6.1.2	
3.4.1	Type designator	6.1.2.1	
3.4.2	Composite packagings type designator	6.1.2.2	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
3.4.3	Combination packagings type designator	6.1.2.3	
3.4.4	T, V or W after the type designator	6.1.2.4	
3.4.5	Numerals types of packaging	6.1.2.5	
3.4.6	Upper case letters packaging material	6.1.2.6	
3.4.7	Type designators assigned	6.1.2.7	
<b>Division 3.5</b>	Packaging performance and specification markings	6.1.3	
3.5.1	Packaging markings	6.1.3.1	There are some additional marking requirements in 6.1.3.2, particularly for drums
3.5.2	Sequence of package markings	6.1.3.7	Includes additional requirement for a slash or space between items
3.5.3	Durability for reprocessing	6.1.3.3	
3.5.4	Reprocessing markings	6.1.3.8/9	
3.5.5	Location and sequence of reprocessing markings	6.1.3.8/9	Additional requirements for reapplying markings which disappear
3.5.6	Salvage packaging	6.1.3.12	
3.5.7	Inner packaging markings	6.1.3.13	
3.5.8	Packagings that have not been performance tested	6.1.3.14	
<b>Division 3.6</b>	Packaging construction standards	6.1.4	
3.6.1	Steel drums	6.1.4.1	
3.6.2	Aluminium drums	6.1.4.2	6.1.4.3 adds requirements for drums of other metals
3.6.3	Steel or aluminium jerricans	6.1.4.4	
3.6.4	Plywood drums: 1D	6.1.4.5	Note 250 L restriction
3.6.5	Wooden barrels	—	Deleted by UN
3.6.6	Fibre drums: 1G	6.1.4.7	
3.6.7	Plastics drums and jerricans	6.1.4.8	
3.6.8	Boxes of natural wood	6.1.4.9	
3.6.9	Plywood boxes: 4D	6.1.4.10	
3.6.10	Reconstituted wood boxes: 4F	6.1.4.11	
3.6.11	Fibreboard boxes: 4G	6.1.4.12	
3.6.12	Plastics boxes	6.1.4.13	
3.6.13	Steel or aluminium boxes	6.1.4.14	
3.6.14	Textile bags	6.1.4.15	
3.6.15	Woven plastics bags	6.1.4.16	
3.6.16	Plastics film bags: 5H4	6.1.4.17	
3.6.17	Paper bags	6.1.4.18	
3.6.18	Composite packagings (Plastics material)	6.1.4.19	
3.6.19	Composite packagings (glass, porcelain or stoneware)	6.1.4.20	
3.6.20	Inner packagings	6.1.4.21	
<b>Division 3.7</b>	Performance testing	6.1.5	
3.7.1	Design type testing	6.1.5.1	Not all the detail from ADG6 is located here. Some is in the relevant Packing Instructions in 4.1.4. For example 3.7.1(6) is now covered by Special Packing Provision PP1 in Packing Instruction P001
3.7.2	Preparation of packagings for performance testing	6.1.5.2	
3.7.3	Drop type test	6.1.5.3	
3.7.4	Leakproofness test	6.1.5.4	for 3.7.4(2) see 6.1.1.3 or 4.1.1.12

ADG6 Ref.	Subject	ADG7 Refs.	Comment
3.7.5	Internal pressure (hydraulic) test	6.1.5.5	
3.7.6	Stacking test	6.1.5.6	
3.7.7	Cooperage test for bung type wooden barrels	—	Deleted from UN14/15, and hence ADG7
3.7.8	Test certificates	6.1.5.7	Now referred to as Test Reports
<b>Division 3.8</b>	Special provision for packaging of particular classes of dangerous goods	Chapter 4.1	
3.8.1	Class 1	4.1.5	Included for information only. –Refer to Australian Explosives Code
3.8.2	Class 2	4.1.4.1 + 4.1.6	–Packing Instruction P200 includes specific requirements for individual gases –Special packing provisions for Class 2
3.8.3	Class 3	4.1.4.1	These requirements are now provided by the detailed Packing Instructions (e.g. P001) and the Special Packing Instructions as referenced from specific substances from Columns (8) & (9) of the DG List in 3.2.3
3.8.4	Class 4, other than self-reactive and related substances of Class 4.1	4.1.4.1	–as Class 3 above
3.8.4.1	Class 4.1 Self-reactive and related substances	4.1.4.1 + 4.1.7	–as above, plus... –Applies also to Division 5.2
3.8.5.1	Class 5.1	4.1.4.1	–as Class 3 above
3.8.5.2 Table 3.6	Class 5.2 Organic peroxides - General Packing Requirements	4.1.4.1 + 4.1.7	–see above. Table 3.6 is covered by P520 –Applies also to Self-reactive Division 4.1
3.8.6.1	Class 6.1	4.1.4.1	–as Class 3 above New 4.1.8 applies to Division 6.2
3.8.7	Class 7		Refer to Radioactives Code
3.8.8	Class 8	4.1.4.1	–as Class 3 above
3.8.9	Class 9	4.1.4.1	–as Class 3 above
<b>Division 3.9</b>	Used packagings		
3.9.1	Re-use of packagings generally	4.1.1.9, 4.1.1.15	
3.9.2	Reprocessed steel drums	Appendix D	Incorporates the Code of Practice for Reprocessing Steel Drums previously published separately as Supplement 1 to earlier editions of the ADG Code
<b>CHAPTER 4</b>	<b>BULK CONTAINERS</b>	Chs. 4.2, 6.7 Chs. 4.1, 6.5 Chs. 4.3, 6.8 Chs. 4.4, 6.9	–Portable Tanks –IBCs –Bulk Containers (for solids) –Tank Vehicles Note that ADG7 has adopted UN15's concepts of bulk. For detailed discussion, see Key Changes –Items 7 – 9, 11
<b>Division 4.1</b>	Restrictions on transport in bulk		See Key Changes –Items 7 & 11
4.1.1	Certain dangerous goods must not be transported in bulk	4.1.3.2, 4.1.2, 4.1.4.2  4.2.5.1. 4.3.1.1 4.4.2.2	–IBCs [in conjunction with Cols. (8 & 9) of DGL]  –Portable Tanks and MEGCs }– –Bulk Containers (for solids) }– –Tank vehicles }– {in conjunction with Cols. (10 & 11) of DGL}
<b>Division 4.2</b>	General requirements for transport in bulk		
4.2.1	Containers must not be incompatible or damaged	4.1.1.2/9 4.2.1.9.6 4.3.1 4.4.2.4	–IBCs –Portable tanks –Bulk containers –Tank vehicles

ADG6 Ref.	Subject	ADG7 Refs.	Comment
4.2.2	Dangerous goods as a liquid or gas in bulk	4.4.2.4.2	
4.2.3	Polymers and molten solids	4.2.1.3 4.4.2.4.3	-Portable tanks -Tank vehicles
<b>Division 4.3</b>	Approval of tank designs		
4.3.1	Application for approval of a tank design	6.7.2.18 6.7.3.14 6.7.4.13 6.9.2.1	-Portable tanks  -Tank vehicles
<b>Division 4.4</b>	Design approval of tanks		
4.4.1	Standards applicable to tanks manufactured in Australia	6.7.2,-3,-4 6.9.2.1.2/ Table 6.1	-Portable tanks -Tank vehicles
4.4.2	Standards for tanks intended to form part of or be attached to road vehicles		No direct equivalent. A similar result is achieved through reference to Col. (10) of the DGL, 6.9.2.1 and Table 6.1
4.4.3	Standards for other tanks manufactured in Australia	6.9.2.1.2	
4.4.4	Standards for tanks manufactured outside Australia	Chapters. 4.2, 6.7	In particular the detailed Portable Tank instructions in Chapter 4.2, as referenced from Column (10) of the DGL and the appropriate Section of Chapter 6.7 based on the type of dangerous goods
<b>Division 4.5</b>	Compliance plates and other approval information	6.9.2.2 Chapter 6.7	-Tank vehicles -Portable tanks
4.5.1	Compliance plate specified information	6.9.2.2.3	Road and rail tankers
4.5.2	Compliance plate other requirements	6.9.2.2.1	
4.5.3	Tanks transporting organic peroxides	4.2.1.13	
<b>Division 4.6</b>	IBCs		
4.6.1	Approval of IBC design	6.5.1.1.2/3	
4.6.2	IBCs transporting organic peroxides and self-reactive and related substances	4.1.4.2 (IBC520)	Far more detail is provided in IBC 520
4.6.3	Operational requirements for IBCs	4.1.1	Operational requirements for IBCs are included with those for other packagings
<b>Division 4.7</b>	Transport of organic peroxides and self-reactive and related substances	4.1.4 4.1.7 7.1.5	4.1.4.1 (P520), 4.1.4.2 (IBC520), 4.1.4.3 (T23) Special provisions (packing) (transport)
4.7.1	Transport of self-reactive and related substances in bulk	4.1.4.2	From the DG List, only Type F are permitted in IBCs and portable tanks.
4.7.2	Transport of organic peroxides in bulk	4.1.4.3	Specific details are provided in IBC520 (4.1.4.2) and T23 (4.1.4.3)
4.7.3	How to read Table 4.2	4.1.4.2	IBC520
4.7.4	How to read Table 4.3	4.1.4.3	T23
4.7.5	Emergency-relief devices	4.1.4.2	IBC520
4.7.6	IBCs containing organic peroxides in an enclosed vehicle	7.1.5.2	
4.7.7	Guidelines emergencies in the transport of an organic peroxide	4.1.7.2.4	
4.7.8	Guidelines maintenance	7.1.5.3.2.1	
4.7.9	Guidelines temperature in the refrigeration system	7.1.5.3.2.2	
4.7.10	Guidelines exceeding control temperature	7.1.5.3.2.3	
4.7.11	Guidelines determining suitable temperature control	7.1.5.3.2.4	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
4.7.12	Guidelines preventing temperature control excess	7.1.5.3.2.5	
<b>Division 4.8</b>	Maintenance of bulk containers		
4.8.1	Pressure vessels	6.9.2.3 Chapter 6.7	–Tank vehicles –6.7.3.15, 6.7.4.14, 6.7.5.12 Portable tanks etc
4.8.2	Bulk containers that form part of or are attached to road vehicles	6.9.2.3.1	
4.8.3	Tanks that form part of rail tank vehicles	6.9.2.3.2	
4.8.4	Portable tanks	6.7.2.19	
4.8.5	Foreign approved tanks	Chapter 6.7	All above references
<b>Division 4.9</b>	Attachment systems		
4.9.1	Securing containers	Chapter 8.2	
4.9.2	Stability of tank containers	8.2.2.3	
4.9.3	Design criterion for attachment systems of tanks to vehicles	6.7.2.17 6.7.3.13 6.7.4.12 6.7.5.10	For different types of tank, MEGCs etc.
4.9.4	Calculations in determining design criterion of attachment systems		
4.9.5	Cargo quantity in determining design criterion of attachment systems		
<b>CHAPTER 5</b>	<b>FREIGHT CONTAINERS</b>		
5.1.1	Safety standards	4.4.3	
5.1.2	Securing freight containers	8.2.1	
5.1.3	Standards for freight containers	6.10.1	
<b>CHAPTER 6</b>	<b>UNIT LOADS</b>		
		5.1.2 4.1.4.3 Chapter 6.6	In line with UN14, this concept has now been replaced by “Overpack” –see also Large Packagings
6.1.1	General requirements	5.1.2.2 – 5.1.2.4	
6.1.2	Inner packagings	—	No longer required due to: –Special Packing Provision PP1 in Packing Instruction: P001 (for paints etc); and –P003, P408, P801 & P903 (batteries)
6.1.3	Incompatible dangerous goods	5.1.2.2.2	
<b>CHAPTER 7</b>	<b>MARKING AND PLACARDING</b>	<b>PART 5</b>	
<b>Division 7.1</b>	Format of labels and emergency information panels	Chapter 5.2 Chapter 5.3	–Labels –Placards
7.1.1	Class and subsidiary risk labels	5.2.2.2 5.3.1.2 5.3.2.2	–Class, Mixed Class labels –Class 7 placard –Elevated temperature mark (Note there is no longer any difference between primary hazard and subsidiary risk labels)
7.1.2	Emergency Information Panel	5.3.1.3	
7.1.3	Multi-load Emergency Information Panel	5.3.1.3.2	
7.1.4	Mixed load (refined petroleum product) Emergency Information Panel	5.3.1.3.3	
7.1.5	Dimensions of an Emergency Information Panel	5.3.1.3.5	
7.1.6	Dividing an Emergency Information Panel	5.3.1.3.6	
<b>Division 7.2</b>	Marking packages	Chapter 5.2	
7.2.1	Marking packages containing dangerous goods	5.2.1.1	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
7.2.2	How to read the flow charts	—	No direct equivalent. To determine labelling/ marking thresholds, refer to Chapter 3.4 (Limited Quantities) and 5.2.1.8 and 5.2.2.1.13 (Inner packagings)
7.2.3	Standard marking for a package	5.2.1.1/2 5.2.2.1	–Marking –Labelling
7.2.4	Inner package marking	5.2.1.8 5.2.2.1.13	–Marking –Labelling
7.2.5	Marking of aerosols and cylinders	6.2.3.4 Table 5.1	–Cylinder marking to AS 2030 –Aerosols to AS 2278
7.2.6	Method of applying markings to packages	5.2.1.2	
7.2.7	Dimensions of labels on a package	5.2.2.2.1.1 5.2.2.2.1.2 5.2.2.2.1.9	
7.2.8	Size of a marking other than a label	5.2.1.2	
7.2.9	How to read Table 7.1	Table 5.2	
7.2.10	Guideline position of markings on a package	5.2.1.2(a) 5.2.2.1.6	–Markings –Labels
	Package marking flow charts (Class 1 - Class 9)	—	No direct equivalent see Comment at ADG6 Ref 7.2.2 above
<b>Division 7.3</b>	Marking unit loads		
7.3.1	Marking a unit load pallets	5.1.2.1, 5.2.2.1	
7.3.2	Marking a unit load slings		
7.3.3	Dimensions of markings on a unit load	5.2.2.2.1.1	
7.3.4	Method of applying markings to unit loads	—	No direct equivalent
7.3.5	Exception to marking a unit load	5.1.2.1.1	
<b>Division 7.4</b>	Placarding freight containers	5.3.4/5	
7.4.1	Placarding a freight container packaged dangerous goods	5.3.5	
7.4.2	Placarding a freight container, dangerous goods in bulk	5.3.5 5.3.4	–In IBCs –Portable tanks or Bulk containers
7.4.3	Placarding a freight container bulk and packages	5.3.5	
7.4.4	Placarding freight containers not free from dangerous goods	5.3.9	
7.4.5	Dimensions of labels on freight containers	5.3.1.2.1	
7.4.6	Position of labels on freight containers	5.3.5.4	
7.4.7	Position of Emergency Information Panels on a freight container	5.3.5.4	
7.4.8	Dimensions and position of UN number on freight container	5.3.2.1.2	Note UN Number is no longer required on freight containers with packaged loads
7.4.9	Exceptions to placarding freight containers	5.3.8	
7.4.10	Method of placarding freight containers	5.3.1.4	
7.4.11	Non-duplication of placards - packaged and bulk dangerous goods	5.3.5.2.5	
<b>Division 7.5</b>	Placarding bulk containers	5.3.3/4	Note different usage of ‘bulk container’
7.5.1	Placarding bulk containers	5.3.3.2, 5.3.4.1	
7.5.2	Placarding multi-compartment tanks	5.3.4.2.2	
7.5.3	Placarding bulk containers not free from dangerous goods	5.3.9	
7.5.4	Placement of Emergency Information Panels on a bulk container	5.3.1.4, 5.3.4.1	
7.5.5	Means of placarding bulk containers	5.3.1.4	



ADG6 Ref.	Subject	ADG7 Refs.	Comment
7.5.6	Exceptions to placarding IBCs	5.3.3.6	
7.5.7	Exception to placarding portable tanks	5.3.8	
7.5.8	Unodourized LP Gas	5.3.1.3.4	
<b>Division 7.6</b>	Placarding road vehicles	5.3.6	
7.6.1	Placarding a road vehicle –packaged dangerous goods	5.3.6.1	
7.6.2	Road vehicle transporting dangerous goods in bulk same UN Number	5.3.6.1	–Labels
7.6.3	Road vehicle transporting dangerous goods in bulk different UN Numbers	5.3.6.3.3.1	–EIPs required
7.6.4	Road vehicle transporting bulk and packaged dangerous goods	5.3.6.3.3.2	–EIP selection
7.6.5	Dimensions of labels on road vehicles	5.3.1.2.1	
7.6.6	Placement of labels packaged dangerous goods	5.3.6.1.1 5.3.6.2	–All vehicles –Combination road vehicles
7.6.7	Placement of placards dangerous goods in bulk	5.3.6.1.1 5.3.6.2 5.3.6.3.2	–All vehicles –Combination road vehicles –Emergency Information Panels
7.6.8	Non-duplication of placards packaged and bulk dangerous goods	5.3.6.4.1/2	
7.6.9	Position of Emergency Information Panels	5.3.6.3.2.2	
7.6.10	Method of placarding road vehicles	5.3.1.4	
7.6.11	Placarding combinations	5.3.6.2	
7.6.12	Exceptions to placarding road vehicles tanks and containers	5.3.6.4	
7.6.13	Bitumen spray vehicle removal of Emergency Information Panel	5.3.6.4.5	
<b>Division 7.7</b>	Placarding rail wagons	5.3.7	
7.7.1	Placarding rail wagons dangerous goods of any quantity in a freight container or a quantity less than a placard load	—	This requirement was withdrawn by CAP exemption notice EXEM 2000/65
7.7.2	Placarding rail wagons placard load of dangerous goods, other than in a freight container	5.3.7.2	
7.7.3	Placarding a rail wagon transporting dangerous goods in bulk, same UN Number	5.3.7.2	–Freight & bulk containers, portable tanks
7.7.4	Placarding a rail wagon transporting dangerous goods in bulk, different UN Number	5.3.7.1	–Tank wagons
7.7.5	Additional placarding for rail wagons dangerous goods in bulk		
7.7.6	Exception to placarding rail wagons bulk containers and freight containers		
7.7.7	Use of composite rail transit cards	—	These requirements were withdrawn by CAP exemption notice EXEM 2000/65
7.7.8	Dimensions of labels		
7.7.9	Position of label on a rail wagon	5.3.7.2.1 5.3.7.2.2 5.3.7.2.4	–Not if in containers/tanks –When not in containers/tanks –Where missing from containers etc
7.7.10	Position of Emergency Information Panel on a rail vehicle	5.3.7.1 5.3.7.2.3	–Tank wagons –Closed wagon with placardable units
<b>CHAPTER 8</b>	<b>VEHICLES</b>		
8.1.1	Safety standards vehicles and equipment	Chapter 6.9	
8.1.2	Insurance		Removed from Code to Regulations

ADG6 Ref.	Subject	ADG7 Refs.	Comment
<b>CHAPTER 9</b>	<b>SEGREGATION AND STOWAGE</b>	<b>PART 9</b> <b>PART 8</b>	–Segregation –Stowage
<b>Division 9.1</b>	Segregation of incompatible goods	<b>PART 9</b>	
9.1.1	Dangerous goods must be segregated from incompatible goods	9.2.1.1	
9.1.2	Meaning of “incompatibility”	1.2.1.2.8 9.1.1	
9.1.3	Dangerous goods that are incompatible with other goods	9.1.2 Table 9.1	Note that the detailed text included in 9.1.3 of ADG6 has been omitted and replaced by reference to Table 9.1 (based on Table 9.2 of ADG6, with additional explanatory notes)
9.1.4	Fire risk substances	Table 9.1	
9.1.5	Food and food packagings	Table 9.1 9.1.2.3	–The requirement –Conditional exemption
9.1.6	Exception in relation to Class 1.4S	9.1.2.2.2	
9.1.7	Further examples of incompatible goods	9.1.3	Incorporates Table 9.2 (based on Table 9.1 of ADG6)
9.1.8	Segregation of dangerous goods of Packing Group I	9.2.2.4	
9.1.9	Segregation of dangerous goods of Packing Group II and III	9.2.2	Material has been regrouped for clarity
9.1.10	Exception to segregation dangerous goods in cylinders	Table 9.1	Exception (3)
9.1.11	Using a segregation device	9.2.2.6 4.4.5 5.2.2.1.14	–Authorization –Most usage requirements –Labelling Note that Chapter 6.11 incorporates the ‘Specifications for Segregation Devices’ that was published separately as Supplement 3 to earlier editions of the Code.
9.1.12	Goods that must not be transported on the same combination road vehicle	9.2.3	
<b>Division 9.2</b>	Separation between goods on rail wagons and marshalling of rolling stock	9.2.3, 9.2.4	This whole division has been replaced by application of the same principles that apply to the transport of dangerous goods on combination road vehicles, while retaining some rail specifics
9.2.0	General Provisions	9.2.2.1,2 9.2.2.3 9.2.4	–Separate vehicles –Separate freight containers –Retains some of the rail specific requirements of ADG6
	Separation by Class	—	No direct equivalent Segregation requirements apply as for all transport units. The critical rail separation requirements are incorporated in 9.2.3/4
9.2.11	Double stacking of freight containers	9.2.4.8	
<b>Division 9.3</b>	<b>Stowage</b>	<b>PART 8</b>	
9.3.1	Stowage of packaged dangerous goods	8.1.2/3	
9.3.2	Special requirements for stowing dangerous goods of Class 2	7.1.4	
9.3.3	Special requirements for stowing self-reactive and related substances and organic peroxides	7.1.5	
9.3.4	Special requirements for stowing dangerous goods of Class 4.3	7.1.10	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
9.3.5	Exception for Chlorine	3.3.1.2 SP AU07	Required due to the addition of Sub-Risk 5.1 to align with UN15
<b>Division 9.4</b>	Transport of dangerous goods on passenger trains	9.2.4.7	Simplified rules
9.4.9	Transport of dangerous goods on the rear of a passenger train	9.2.4.7.2–4	
<b>CHAPTER 10</b>	<b>TRANSFER OF BULK DANGEROUS GOODS</b>	<b>PART 10</b>	
<b>Division 10.1</b>	Hose assemblies	Chapter 10.1	Expanded to include all transfer equipment
10.1.1	Hose assemblies for Class 2 (other than LP Gas or anhydrous ammonia)	10.1.2.2	
10.1.2	Hose assemblies for LP Gas	10.1.2.3	
10.1.3	Hose assemblies for anhydrous ammonia (UN 1005)	10.1.2.4	
10.1.4	Hose assemblies for Class 3 petroleum products	10.1.2.5	
10.1.5	Hose assemblies for dangerous goods in liquid form other than Class 2 or Class 3 petroleum products	10.1.2.6	
10.1.6	Testing hose assembly for electrical continuity Class 3, 4 & 5, Subsidiary Risk 3, 4 & 5.1	10.1.3.2	
10.1.7	Periodic inspection	10.1.3.1	
10.1.8	Keeping records	10.1.3.4	
10.1.9	Frequency of hydrostatic pressure testing	10.1.3.3	
<b>Division 10.2</b>	Where to transfer dangerous goods	10.2.1	
10.2.1	Position of vehicle during transfer of Class 2.1 or 3	10.2.1.1	
10.2.2	Precautions during transfer in built-up area	10.2.1.2	
10.2.3	Transfer operation within a designated transfer area	10.2.1.3	
10.2.4	Positioning of hose assembly during transfer	10.2.1.5	
10.2.5	Transferring dangerous goods that may give rise to dusts, mists or vapours, etc	10.2.1.4	
<b>Division 10.3</b>	Preventing fire during a transfer operation	10.2.2	
10.3.1	Distance from ignition sources	10.2.2.1	
10.3.2	Stop engine when coupling or uncoupling hoses Class 2.1, 3 & 4	10.2.2.2	
10.3.3	Electrical bonding LP Gas	10.2.2.3.1	
10.3.4	Electrical bonding Class 3	10.2.2.3.3	
10.3.5	Electrical bonding Class 2.1 other than LP Gas	10.2.2.3.2	
10.3.6	Loading spear in contact with tank bottom Class 3	10.2.2.4	
10.3.7	Burners not to operate during transfer operations	10.2.2.5	
<b>Division 10.4</b>	Ullage and maximum permitted filling ratio	Chapter 10.3	–Read introductory Note to Chapter
10.4.1	Ullage dangerous goods (other than Class 2) as a liquid, slurry or paste	10.3.1.1	
10.4.2	Ullage capacity of tank or container exceeding 8600L	10.3.1.2 4.2.1.9.6	–Road tank vehicles –Portable tanks (now 7,500 L)
10.4.3	Ullage Class 2 refrigerated liquid	10.3.1.3	
10.4.4	Maximum permitted filling ratio Class 2 liquid (other than refrigerated liquid)	10.3.2	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
10.4.5	Table 10.1 Maximum permitted filling ratios	4.2.5.2.6	Portable Tank Instruction T50
<b>Division 10.5</b>	Transfer of dangerous goods general requirements	10.2.3	
10.5.1	Vehicle to be stationary during transfer operation	10.2.3.1	
10.5.2	Person to remain with vehicle during transfer	10.2.3.2	
10.5.3	Occupying cabin during transfer operation	10.2.3.3	
10.5.4	Light levels during transfer operations	10.2.3.4	
10.5.5	Transfer operations using gas pressure	10.2.3.5	
10.5.6	Guidelines handling bulk containers in accordance with design	—	Split between various chapters due to different definition of bulk containers
10.5.7	Guidelines using a hose	10.2.3.6	
<b>Division 10.6</b>	Transfer of gas	10.2.4	
10.6.1	Compliance with AS 1596	10.2.4.1	
10.6.2	Transferring liquefied gas inside a building	10.2.4.2	
10.6.3	Other precautions during transfer of Class 2.1 and Class 2.3	10.2.4.3	
10.6.4	Warning notices when transferring liquefied gas	—	No longer a requirement
10.6.5	Other precautions during transfer of liquefied oxygen	10.2.4.4	
<b>Division 10.7</b>	Transfer of dangerous goods of Class 3	10.2.5	
10.7.1	Compliance with AS 1940	10.2.5.1	
10.7.2	Controlling fire risk	10.2.5.2	
10.7.3	Close closures and valves when transfer completed	10.2.5.3	
10.7.4	Manner of filling	10.2.5.4	
<b>CHAPTER 11</b>	<b>DOCUMENTATION</b>	<b>PART 11</b>	
<b>Division 11.1</b>	Shipping documentation	Chapter 11.1	Now called Transport Documentation
11.1.1	Shipping documentation	11.1.1	
11.1.2	Shipping documentation for empty containers	11.1.3.1	
11.1.3	Additional requirements for dangerous goods transported by rail	11.1.5	Also embodies the concessions of CAP EXEM 2000/65
11.1.4	Guideline amending documentation after unloading	11.1.3.3	
11.1.5	Consignor's contact telephone number	11.1.2.1	
11.1.6	Guideline combination road vehicles	11.1.3.2	
11.1.7	Additional requirements for self-reactive and related substances and organic peroxides	11.1.2.3	
<b>Division 11.2</b>	Emergency information	Chapter 11.2	
11.2.1	What is emergency information?	11.2.1.1	
11.2.2	What is an emergency procedure guide?	11.2.1.2/3	
11.2.3	What is an emergency information holder?	11.2.1.4	
11.2.4	Where must an emergency information holder be placed?	11.2.2	
<b>CHAPTER 12</b>	<b>SAFETY EQUIPMENT</b>	<b>PART 12</b>	
12.1.1	Personal protective equipment and safety equipment Table 12.1	12.1.3 Table 12.2	Entries in this Chapter have been regrouped for clarity
12.1.2	How to read Table 12.1		No direct equivalent
12.1.3	Where must safety equipment be carried?	12.1.3.5 12.1.3.6	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
12.1.4	Fire extinguishers Table 12.2	12.1.2 Table 12.1	
12.1.5	How to read Table 12.2	—	Explanatory information now incorporated in Table 12.1
12.1.6	Where must fire extinguishers be carried?	12.1.2.5	
12.1.7	Eyewash kit	Table 12.2	Included in table rather than separate clause
12.1.8	Portable warning devices	12.1.1.2	
12.1.9	Gas detectors	Table 12.2	Included in table rather than separate clause
<b>CHAPTER 13</b>	<b>PROCEDURES DURING TRANSPORT</b>	<b>PART 13</b>	
<b>Division 13.1</b>	Breakdowns		
13.1.1	Alerting traffic of traffic hazard	13.1.2	
<b>Division 13.2</b>	General precautions during transport	13.1.3	
13.2.1	Passengers	13.1.3.1	
13.2.2	Parking requirements	13.1.3.2	
13.2.3	Where a vehicle may be parked	13.1.3.2.2	
13.2.4	Battery isolation switch	—	No longer a requirement
13.2.5	Unloading the vehicle	13.1.3.3	
13.2.6	Detaching a trailer from a prime mover or combination road vehicle	13.1.3.4	
13.2.7	Operation of burners	13.1.3.5	
<b>Division 13.3</b>	Routes		
13.3.1	Selection of routes	13.1.4	
<b>CHAPTER 14</b>	<b>EMERGENCIES</b>	—	Now covered only by the Regulations
14.1.1	Responsibilities of the driver of a road vehicle in an emergency	—	Now covered only by the Regulations
14.1.2	Guidelines responsibilities of the driver of a train in an emergency	—	Now covered only by the Regulations
<b>APPENDICES</b>			
<b>APPENDIX 1</b>	Numerical List of Dangerous Goods	3.2.3	Unlike ADG6, the Numerical List is the principal listing giving all relevant details
<b>APPENDIX 2</b>	Alphabetical List of Dangerous Goods	3.2.4 3.2.5	–Unlike ADG6, the Alphabetical List provides only the Class and UN Number for each Proper Shipping Name –[AUST.] entries from the ADG6 List
Notes		3.2.1	Structure of the Dangerous Goods List
<b>Addendum I</b>	Assignment of Packing Group	2.0.1.3	
3	Class 3	2.3.2	
4	Class 4	Chapter 2.4	
4.1	Assignment of Packing Groups to Class 4.1	2.4.2.2.3	Applies to Flammable Solids only
4.1.3	Assignment of Packing Groups to Self-reactive and Related Substances	2.0.1.3	Packing Group is no longer applied to Self-reactive Substances
4.1.4	Assignment of Packing Groups to Desensitized Explosives	3.2.3	Packing Groups are assigned in the Dangerous Goods List
4.2	Assignment of Packing Groups to Class 4.2	2.4.3.3	
4.3	Assignment of Packing Groups to Class 4.3	2.4.4.3	
5	Class 5	Chapter 2.5	
5.1	Assignment of Packing Groups to Class 5.1	2.5.2.2.2 2.5.2.3.2	–Solids –Liquids
5.2	Assignment of Packing Groups to Class 5.2	2.0.1.3	Packing Group is no longer applied to Organic Peroxides
6	Class 6	Chapter 2.6	
6.1	Assignment of Packing Groups to Class 6.1	2.6.2.2	

ADG6 Ref.	Subject	ADG7 Refs.	Comment
8	Class 8	2.8.2	
<b>Addendum II</b>	Determination of Dangerous Goods Status of Mixtures and Solutions	2.0.2.7 3.1.3.3	
<b>Addendum III</b>	Assignment of Proper Shipping Name and UN Number to Mixtures and Unlisted Substances	2.0.2 3.1.2 3.1.3	
<b>APPENDIX 3</b>	List of Special Provisions	Chapter 3.3	
Notes		—	Transferred to the discussion of Chapter 3.3 in the Outline section of this Guide
<b>Addendum I</b>	Diluted Class 1	2.1.3.6.3	
<b>Addendum II</b>	Desensitized Explosives	2.4.2.4.1	
<b>Addendum III</b>	Methods for Determining Oral and Dermal Toxicity of mixtures	2.6.2.3	
<b>Addendum IV</b>	Classification of Pesticides	2.6.2.4	
<b>Addendum V</b>	Grouping Criteria	2.6.2.2	
<b>Addendum VI</b>	General information about entries	3.1.1.2	
<b>Addendum VII</b>	Organic Peroxide assignment	2.5.3.3.2 (f & g)	
<b>Addendum VIII</b>	Additional packaging requirements applied under SP219	4.1.4.2 P620 & P904	
<b>Addendum IX</b>	Prohibition of certain explosives	2.1.1.1/2	
<b>Addendum X</b>	High Hazard dangerous goods referenced by SP251	3.2.3	Replaced by a reference to dangerous goods for which the Limited Quantity is '0'
<b>Addendum XI</b>	Compatibility of substances packed together	4.1.1.6	
	List of Special Provisions	3.3.1	
<b>APPENDIX 4</b>	HAZCHEM Codes	<b>Appendix C</b>	—see discussion of Appendix C in the Outline section of this Guide
<b>APPENDIX 5</b>	Goods Too Dangerous to be Transported	<b>Appendix A</b>	
<b>APPENDIX 6</b>	List of Currently Assigned Self-reactive Substances	2.4.2.3.2.3	
<b>Addendum I</b>	SADT	2.4.2.3.4	Note that the SADT above which temperature control is required during transport has risen from 50 °C to 55 °C
<b>APPENDIX 7</b>	List of Currently Assigned Organic Peroxides	2.5.3.2.4	
<b>Addendum I</b>	Temperature Control Requirements	7.1.5.3	
<b>Addendum II</b>	Determination of the Self-accelerating Decomposition Temperature	7.1.5.3.1	
<b>APPENDIX 8</b>	List of Generic or N.O.S. Proper Shipping Names	3.2.6	
<b>APPENDIX 9</b>	List of Common Pesticides with Corresponding UN Numbers	—	Removed —see discussion of Appendix B in Outline section of this Guide