STUDENT'S NAME: _____

A GUIDE TO THE

Australian Code for the Transport of DANGEROUS GOODS

By Road & Rail

Edition 7.5

DRIVER'S HANDBOOK

KEEN BROS.
DRIVER TRAINING
CARS - BIKES - TRUCKS L

Contents

Introduction

This Handbook has been compiled by Keen Bros and is provided as a guide and training aid for drivers of dangerous goods vehicles and others involved with the storage and handling of dangerous goods.

Information within this handbook has been extracted from a range of sources including:

- The Australian Code for the Transport of Dangerous Goods by Road and Rail, seventh edition, ©, Commonwealth of Australia, 2007. ISBN 1 921168579.
- Driver Handbook for Dangerous Goods, WorkSafe Victoria

Disclaimer

Whilst every effort has been taken to ensure the accuracy of information contained within this guide, it is not to be relied upon for legal purposes and all material should be checked against the current edition of the Australian Code for the Transport of Dangerous Goods by Road and Rail, and or with the Competent Authority for Western Australia: Dangerous Goods and Petroleum Safety Branch, Department of Mines, Industry and Regulation Safety (DMIRS).

Legislation

In Western Australia, the legislation which addresses the transport of dangerous goods by road is the:

- Dangerous Goods Act 2004
- Dangerous Goods (Road and Rail Transport) Regulations 2007

This legislation sets out the responsibilities of various persons with regard to dangerous goods, the requirements for transport, packaging, containing large quantities, placarding of vehicles, registration and standards of vehicles for transport, emergency procedures and licensing of drivers.

This legislation is available at http://www.dmp.wa.gov.au/Dangerous-Goods/Dangerous-goods-safety-6506.aspx or contact Keen Bros for an electronic copy.

Requirement to be licensed

If you are transporting Dangerous Goods in quantities as specified under the legislation:

a) The vehicle must be licensed to transport the goods
b) The person must be licensed to drive the vehicle (i.e., have a current driver's license for the class of vehicle)
c) The person must be licensed to drive a vehicle transporting dangerous goods

Under the Australian Dangerous Goods laws, you are required to hold a dangerous goods driver license if you are transporting goods identified as dangerous in a single container or receptacle with a capacity greater than 500 kg (liters). There is an exemption for transport of dangerous goods up to a maximum of 3,000 L in Intermediate Bulk Containers (IBCs). You cannot load or unload the IBC whilst it is on the vehicle, and placarding requirements still apply – see further information in this Handbook regarding IBCs.

Licensing Procedure, Requirements, Assessment, Refusal and Cancellation

Refer to Regulations for each State

To obtain a license to drive a vehicle transporting dangerous goods (a Dangerous Goods Drivers Licence), a person must meet criteria as set out in the legislation, including:

Completion of an approved recognised training program – such as this 2 day program provided by Keen Bros, as you will need to provide a copy of your Statement of Attainment or Certificate of Competency, a satisfactory Medical Certificate, a satisfactory National Police Certificate, provide 1 passport photograph (The passport photograph must be a JPEG file) and pay the application fee which will cover the 5 year period of the licence.

Applications can only be lodged online. You must apply online via the Safety Regulation System (SRS). Follow the following link for more info:
http://www.dmp.wa.gov.au/Dangerous-Goods/Applying-for-a-dangerous-goods-8428.aspx

Licences are issued for fixed terms (5 years) and license holders must complete an approved recognised training program in order for their license to be renewed.

License Assessment

To obtain a Western Australian Dangerous Goods license you must complete the requirements listed above and also complete a national Assessment. This assessment does not vary from state to state. It consists of Four Elements and Two Scenarios as follows:

Element One
- ✓ 20 Question's dealing with general knowledge of Dangerous Goods

Element Two
- ✓ 20 Question's dealing with:
  - Placarded loads
  - EIP's
  - Subsections
  - Fire Extinguishers
  - PPE
  - Transport Documentation
  - Ullage

Element Three
- ✓ 10 Question's dealing with:
  - Transfer of loads
  - Spills and Emergencies
  - Competent Authority

Element Four
- ✓ 10 Questions dealing with:
  - Legislative requirements
  - Emergency reporting

Scenario One
- ✓ 11 Questions Dealing with the cartage of a 20,000 litre Isotainer

Scenario Two
- ✓ The pickup of Two IBC's delivery and the pumping out of one of the IBC's

Refusal or Cancellation of a DG Licence

Refusal or cancellation of licence

Driving offences that result in the suspension or cancellation of your motor driver's licence (MDL) may lead to the cancellation or refusal of your dangerous goods or explosives driver licence.

Consequently, a six-month suspension of your MDL may mean no dangerous goods or explosives driver licence for five years. At the time of application, if the driver: has:

a) In the five years before the application, been found guilty by a court in Australia of an offence that makes the applicant unsuitable to be the driver of a vehicle transporting dangerous goods, or explosives; or
b) The applicant's driver licence has been cancelled or suspended on a ground that makes the applicant unsuitable to be the driver of a vehicle transporting dangerous goods, or explosives; or
c) Has not passed a relevant training course, or ·
d) Is not medically fit, he or she will *not* be issued with a dangerous goods or explosives driver licence.

Driving record criteria that result in ineligibility for licence

Examples where the applicant would be deemed *ineligible* to be granted a dangerous goods or explosives driver licence on the basis of their driving record are given below.

1. Any driver that has had their MDL suspended, cancelled or disqualified *two or more times* during the review period as a result of a traffic conviction such as:
    a) Dangerous driving - reckless driving; - driving with prescribed percentage of alcohol in the blood 0.08% (0.08 grams/100 mL of blood); or –
    b) Driving under the influence of a drug as per the *Road Traffic Act 1974.* 2.
2. Any driver whose MDL has been suspended, cancelled or disqualified *once* during the review period for traffic convictions such as those mentioned above, and their driving record following the conviction contains:
    a) Any other serious offence (see list below); or further traffic offences that total 8 or more demerit points.
3. Any driver whose MDL has been suspended, cancelled or disqualified during the review period through the accumulation of demerit points predominantly for traffic offences and not solely non-payment of fines, and their driving record following the suspension, cancellation or disqualification:
    a) Contains any other serious offence (see list below); or
    b) Contains further traffic offences which total eight or more demerit points; or
    c) Identifies that they have been convicted of an offence under the *Dangerous Goods Safety Act 2004*, or the Transport Regulations, or the Explosives Regulations that carries a level 1 penalty.
4. Any driver whose MDL has been disqualified for breaching a good behaviour period.
5. Any driver whose MDL has been disqualified for driving a vehicle licensed to transport dangerous goods in bulk while having a prescribed percentage of alcohol in the blood of 0.02% (grams/100 mL of blood). The following traffic infringements or offences are considered to be *serious*.
    a. Exceeding speed limit by at least 20 km per hour; ·
    b. Failing to stop at a red light signal;
    c. Careless driving;
    d. driving with a blood alcohol content 0.05% (0.05 grams/100 mL blood);
    e. Driving a dangerous goods vehicle while having a blood alcohol content of <0.02% (grams/100 mL blood);

f. Driving without a MDL; or
g. Other serious traffic offences (indicated by a demerit point value of three or more).

Additional Criteria for Explosives Drivers

Explosives drivers must obtain a Dangerous Goods Security Card before they can apply for an explosives driver licence. When applying for, or renewing an explosives driver licence, applicants must also declare if they have been charged with or convicted of any offences under the dangerous goods and explosives legislation of Western Australia or elsewhere.

Requirement to notify Resources Safety of changes to status of information provided with application

Holders of explosives and dangerous goods driver licences must advise Resources Safety of:

a) Material changes to their medical status, or
b) MDL disqualifications within 14 days of becoming aware of the change.

Review of a decision by the Chief Officer

A person aggrieved by a decision to reject a dangerous goods driver licence application may apply in writing to the Chief Officer for a reconsideration of the decision. This application must be made within 28 days of being notified of the decision, or a longer period if allowed by the Chief Officer. The Chief Officer must respond to such a request within 28 days.

Note: This option is not available for an applicant who has been refused an explosives driver licence. The applicant would need to put his or her case to the State Administrative Tribunal (see below).

Requests to the Chief Officer for reconsideration must state the grounds or reasons why the decision should be reconsidered. Appropriate grounds for reconsideration are:

a) the information provided with the application was inaccurate, and the accurate information will support the granting of a licence;
b) Resources Safety has made an error (e.g. used the wrong information in making its decision, or incorrectly interpreted the information provided); or ·
c) The applicant is able to provide additional or missing information. Reasons that are not sufficient to justify reconsideration of a decision include: ·
    i. loss of employment or related hardship; ·
    ii. support from a current or prospective employer; ·
    iii. letters of support or recommendations from any other person; and ·
    iv. if the date of the training certificate or medical is more than six months before the application date (e.g. even by one day).

The regulations allow scope for conditions to be placed on dangerous goods driver licences. However, it is Resources Safety's general policy to not grant conditional licences on the basis that compliance is difficult to verify. Conditions are not to be used to subvert the normal licence eligibility requirements.

Review of a decision by the State Administrative Tribunal

Both dangerous goods and explosives driver applicants, if aggrieved by a decision may appeal to the State Administrative Tribunal (SAT) for a review of the decision. Appeal applications must be made within 21 days of being notified of the decision and must be made in the form required by SAT.

Contacts & References

The Competent Authority in Western Australia is the **Department of Mines, Industry and Regulation Safety (DMIRS)** –

tel: 08 9358 8001
web: http://www.dmp.wa.gov.au/Dangerous-Goods/Dangerous-Goods-258.aspx
Contact the Department of Mines, Industry and Regulation Safety (DMIRS), Dangerous Goods and Petroleum Safety Branch for information about Dangerous Goods Driver Licenses and Vehicle Licenses

To see a list of the Competent Authorities for each State and Territory, and their contact details, refer to Pages iv and v of the ADG 7 Code.

Keen Bros – tel: (08) 9923 1088, www.keengeraldton.com.au is an approved provider of the Dangerous Goods Driver Licence training program.

Legislation in Western Australia is available at: http://www.dmp.wa.gov.au/Dangerous-Goods/Dangerous-Goods-258.aspx
Download the model regulations from www.ntc.gov.au

Download the **Australian Code for the Transport of Dangerous Goods by Road and Rail** from the National Transport Commission web site – go to: www.ntc.gov.au

What's in the Australian Dangerous Goods Code – Edition 7.5, 1 March 2017

The Code is presented as one electronic file – hard copies are no longer available to purchase. Below is a reference to where to find details of key information in the ADG Code Edition 7.5.

Appendices

There are also Appendices to the Code. These are shown below:

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ADG7 Information Guide

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Roles and Responsibilities

For any dangerous goods that are consigned by any business by road or rail, that business becomes known as the Consignor. All consignors have significant responsibilities in the giving of information relating to the Dangerous Goods being carries and all employees involved in the movement of that freight are subject to what is known as the Chain of Responsibility (CoR).

CoR aims to attribute legal accountability for transport safety to those who influence in the supply chain. The actual supply chain starts with the manufacturer, the packers that work for the manufacturers and then the consignor, their packers and loaders, the delivery drivers and then the receiver/consignee.

The Consignor in this case is also known as the prime contractor and that is, the person conducting a business for or involving the transport of Dangerous Goods by road who undertake to be responsible or is responsible for the transport of those goods by road.

The Transportation of those goods will require the participation of some or all of the following:

- Consignor
- Driver
- Packer
- Loader
- Prime Contractor
- Vehicle owners
- Manufacturers

All of those involved in the listed above are a part of the Chain of Responsibility and as such have legal responsibility to know of the requirements and restrictions involved in the movement of Dangerous Goods as specified in the **Dangerous Goods Safety (Road and Rail Transport of Non-Explosives) Regulation 2007**

Note: This regulation can be viewed or downloaded from the Department of Mines, Industry and Regulation Safety (DMIRS) at: http://www.dmp.wa.gov.au/Dangerous-Goods/Dangerous-goods-safety-6506.aspx

The Australian Dangerous Goods Code 7.5 was published in 2017 and information from that volume is listed in this hand book guide.

The ADG7 must be read in conjunction with the Dangerous Goods Act 2004 and the Transport of Dangerous Goods by Road and Rail sets out the specific legal requirements for the transporting of DG by road or rail. The basis of the duties and responsibilities outlined in DG Act 2004 and Regulations 2007 are the technical requirements set out in the ADG 7.5

CHAPTER 12.1 -SAFETY EQUIPMENT FOR ROAD VEHICLES

12.1.2 FIRE EXTINGUISHERS

12.1.2.1 A road vehicle transporting a placard load of dangerous goods must be equipped with a fire extinguisher or fire extinguishers in accordance with Table 12.1.

Regulation 165 – Drivers Duties

165. Duty on drivers

1. A person must not drive a road vehicle transporting a placard load if the road vehicle is not equipped with —
    a) fire extinguishers and portable warning devices that comply with the ADG Code Part 12; and
    b) any other equipment required under that Part.
2. A person must not drive a road vehicle transporting a placard load if the person knows, or ought reasonably to know —
    a) That a fire extinguisher with which the vehicle is equipped under sub-regulation (1) has not been inspected or tested in accordance with —
    (i) the ADG Code Part 12; and
    (ii) AS 1851—2005, Maintenance of fire protection systems and equipment; or
    b) That a portable warning device with which the vehicle is equipped under sub-regulation (1) has not been inspected or tested in accordance with the ADG Code Part 12; or
    c) That any fire extinguisher, portable warning device, or other equipment, with which the vehicle is equipped under sub-regulation (1) is not in good repair or proper working order; or
    d) That any fire extinguisher, portable warning device, or other equipment, with which the vehicle is equipped under sub-regulation (1) is not stowed in accordance with the ADG Code Part 12.

Penalty: a fine of $3,000.

Roles and Responsibilities of a Dangerous Goods Driver

Regulation: 169. Driving

The driver of a road vehicle transporting a placard load must not allow anyone else to ride in the road vehicle except in accordance with the ADG Code Part 13.
Penalty: a fine of $1,500.

Regulation: 170. Parking

The driver of a road vehicle transporting a placard load must not park the road vehicle, or leave the road vehicle standing, in a public or private place except in accordance with the ADG Code Part 13.
Penalty: a fine of $3,000.

Regulation: 171. Control of ignition sources

1. This regulation applies to a road vehicle transporting a load of dangerous goods if —
    a) the load contains —
        i. dangerous goods in a receptacle with a capacity of more than 500 L; or
        ii. more than 500 kg of dangerous goods in a receptacle; and
    b) the load contains dangerous goods of UN Division 2.1 or UN Class 3, 4 or 5 or that have a Subsidiary Risk of 2.1, 3, 4 or 5.1.

2. The driver of the road vehicle must not —
    (a) have matches or a cigarette lighter in his or her possession in the road vehicle; or
    (b) smoke in the road vehicle.

Penalty: a fine of $10,000.

3. The driver must do everything practicable to ensure that anyone else in the road vehicle does not —
    (a) have matches or a cigarette lighter in his or her possession; or
    (b) smoke.

Penalty: a fine of $10,000.
[Regulation 171 amended in Gazette 22 Jun 2010 p. 2736.]

Regulation: 172. Unloading

The driver of a road vehicle transporting a placard load must not permit the dangerous goods to be unloaded from the road vehicle except in accordance with the ADG Code Part 13.
Penalty: a fine of $10,000.

Regulation: 173. Detaching trailer

The driver of a road vehicle that has attached to it a trailer transporting a placard load must not detach the trailer or permit it to be detached from the road vehicle except in accordance with the ADG Code Part 13.
Penalty: a fine of $10,000.

Regulation: 174. Road tank vehicle equipped with burner

The driver of a road tank vehicle that is transporting a placard load and is equipped with a burner to heat the load must not operate the burner or permit it to be operated except in accordance with the ADG Code Part 13.
Penalty: a fine of $10,000.

Division 4 — Instruction and training

Regulation: 14. Instruction and training

1. This regulation applies to any task involved in the transport of dangerous goods, including the following —
    a) packing dangerous goods;
    b) consigning dangerous goods;
    c) loading dangerous goods;
    d) unloading dangerous goods;
    e) handling fumigated cargo transport units;
    f) marking packages;
    g) placarding placard loads;
    h) preparing transport documentation;
    i) maintaining vehicles and equipment used in the
    j) transport of dangerous goods;
    k) driving a vehicle transporting dangerous goods;
    l) being the consignee of dangerous goods;
    m) following the appropriate procedures in accordance with these regulations in a dangerous situation.
2. A person who is responsible for management or control of a task must not employ, engage or permit another person to perform the task if the other person —
    a) has not received, or is not receiving, appropriate instruction and training to ensure that he or she is able to perform the task safely and in accordance with these regulations; or
    b) is not appropriately supervised in performing the task to ensure that he or she is able to perform the task safely and in accordance with these regulations.

Penalty: a fine of $10,000.

Regulation: 15. Approvals — tests and training courses for drivers

1. The Chief Officer may, on an application made in accordance with regulation 194, approve —
    a) a test of competence for drivers of road vehicles transporting dangerous goods; or
    b) a training course for drivers of road vehicles transporting dangerous goods.

2. The Chief Officer may approve a test of competence or a training course only if the Chief Officer considers that a person who passes the test, or completes the course, will have the skills and knowledge to perform the task to which the test or course relates safely and in accordance with these regulations

Division 1 — Kinds of goods

Regulation: 28. Term used: dangerous goods

1. Subject to sub-regulations (2) and (3), for the purposes of these regulations, a substance or article is dangerous goods if —
   a) it satisfies the dangerous goods classification criteria set out, or referred to, in the ADG Code Part 2; or
   b) it is named in column 2 of the Dangerous Goods List, irrespective of whether the name is —
      i. a generic name; or
      ii. a name described as "N.O.S"; or
   c) a determination made under regulation 17(1)(a) that the substance or article is dangerous goods is in effect.
2. A substance or article that satisfies the criteria set out, or referred to, in the ADG Code Part 2 is not dangerous goods for the purposes of these regulations if —
   a) it is described as not subject to the ADG Code in a Special Provision in the ADG Code Chapter 3.3 that is applied to the substance or article by column 6 of the Dangerous Goods List; or
   b) a determination made under regulation 17(1)(a) that the substance or article is not dangerous goods is in effect.
3. Except for regulation 29, a substance or article is not dangerous goods for the purposes of these regulations if, under the ADG Code, it is within any of the following classes or divisions of dangerous goods —
   a) Class 1 (explosives);
   b) Division 6.2 (infectious substances);
   c) Class 7 (radioactive materials).

[Regulation 28 amended in Gazette 22 Jun 2010 p. 2720.]

Regulation: 29 Terms used: UN Class, UN Division

For the purposes of these regulations, the UN Class or UN Division of particular dangerous goods is:

a) if a determination made under regulation 17(1)(b) that the goods are of a particular UN Class or UN Division is in effect — the Class or Division specified in the determination; or
b) if no such determination is in effect — the Class or Division determined for the goods in accordance with the ADG Code.

Note 1: Under the UN classification system there are 9 classes of dangerous goods. Under that system some Classes are further divided into Divisions and some Divisions are divided into Categories.
Note 2: Under the ADG Code, if particular dangerous goods are listed in the Dangerous Goods List, their UN Class or Division is that listed in column 3 of that list opposite the name and description of those goods, unless Chapter 3.3 of that Code provides for those goods to be assigned to a different Class or Division.

30. Term used: Subsidiary Risk

For the purposes of these regulations, the Subsidiary Risk, if any, of particular dangerous goods is —

a) if a determination made under regulation 17(1)(c) that the goods have a particular Subsidiary Risk is in effect — the Subsidiary Risk specified in the determination; or
b) if no such determination is in effect — the Subsidiary Risk determined for the goods in accordance with the ADG Code.

Note: Dangerous goods that are able to be assigned to more than one UN Class or UN Division are assigned a Subsidiary Risk. The Subsidiary Risk or Risks are the other UN Class or Classes or UN

ADG 7.5 Chapter 11.2.2 Placement of Emergency Information Holder

11.2.2.1 An emergency information holder must be securely placed on a road vehicle:

a) on the inside of a door of the cabin; or
b) immediately adjacent to a door of the cabin; or
c) if the construction of the vehicle does not allow the holder to be attached to the inside of or adjacent to a cabin door -elsewhere in the cabin of the vehicle, provided that the position of the holder is identified on a notice affixed to the inside of the driver's door of the cabin.

Chapter 10.3 -Ullage and Maximum Permitted Filling Ratio

Refer to ADG 7.5, Chapter 10.3, page 1155

Any bulk liquid Dangerous Goods must not be transported in a large compartment tank, if the ullage in the large compartment is more than 20% but less than 85%

Any **transport vehicle** containing liquid in either a single compartment of more than 8,600 liters, or with any one of multiple compartments exceeding 8,600 liters, must not be offered for transport with ullage of between 20% and 85% as defined in AS 2809.1.

This does not apply to:

- Dangerous Goods Class 2; or
- Liquefied gases
- TARS, LIQUID (UN 1999) (bitumen)
- Elevated Temperature liquids (UN3256, UN3257)
- Liquids with have a viscosity of 2,680mm^2 /s at 20°

Any **transport tank** containing a liquid with a compartment of more than 7,500 liters, unless divided by partitions or surge plates, must not be offered for transport if fill is between 20% and 80%. Refer ADG 7.5, Chapter 4.2.1.9.6, page 816

Regulation: 180 Emergency Plans

1. Before a prime contractor or rail operator transports a placard load, the prime contractor or rail operator must prepare and have an emergency plan for the transport of the goods.
2. An emergency plan for the transport of a placard load must —
   a) be in writing; and
   b) be a plan that deals with any dangerous situation arising from the transport of the goods; and
   c) be prepared having regard to any guidelines approved by the Standing Council on Transport and Infrastructure.
3. An emergency plan is prescribed to be a safety management document for the purposes of the definition of safety management document in the Act section 3(1).

[Regulation 180 amended in Gazette 13 Jun 2014 p. 1944.]

Objectives of a Transport Emergency Plan

Transport Emergency Plans are put in place to:

- Minimize any adverse effects on people, damage to property or harm to the environment in a transport emergency
- To facilitate a rapid and effective emergency response and recovery
- To provide assistance to emergency and security services
- To help the communication of vital information to emergency responders with a minimum delay
- To allow the communication of accurate information to emergency responders
- Provide guidance to Drivers to be able to assist emergency responders in the event of an emergency.

Division 3 — Dealing with emergencies involving placard loads

Regulation: 183. Terms used

In this Division —

approved responder, in relation to a quantity of dangerous goods, means a person who is approved by the Chief Officer under regulation 184 in relation to the quantity, and the description or class, of the dangerous goods; emergency response contract, with a person, means a contract under which the person agrees —

a) to provide the resources to eliminate or reduce to an acceptable level the risk associated with a dangerous situation involving dangerous goods being transported; and
b) to do so as soon as practicable after being asked to do so by the other party to the contract.

Regulation: 184. Approvals — responders to emergencies

1. The Chief Officer may approve a person to deal with any dangerous situation that might result while dangerous goods of a specified quantity and of a specified description or class are being transported if the Chief Officer is satisfied that the person —
   a) is competent; and
   b) has the equipment and other resources that would be needed, to eliminate or reduce to an acceptable level the risk associated with the dangerous situation.
2. Any such approval must be in writing and must specify the quantity and the description or class of the dangerous goods to which it relates.

Competent Authorities for Road Transport

Listed below is a list of contacts for each state which can be contacted for operational issues relating Dangerous Goods on a day to day basis.

CONTACTS LIST		
ADDRESS	**Telephone Number**	**Email Address Facsimile**
Australian Capital Territory *Environment and Dangerous Substances and Licensing* *Access Canberra* *GPO Box 158* *CANBERRA CITY ACT 2601*	13 22 81	Facsimile: 02 6207 6084 Web: www.accesscanberra.act.gov.au Email: dangeroussubstances@act.gov.au
NEW SOUTH WALES ***Premises-Based activities*** *Hazardous Chemical Services* *SafeWork NSW* *Locked Bag 2906* *LISAROW NSW 2252* ***Transport Related Matters*** *Manager Chemical Regulation,* *NSW EPA* *59-61 Goulburn NSW 2000*	131 050 02 9995 5555 131 555	Web: www.safework.nsw.gov.au Email: contact@safework.nsw.gov.au Web: www.epa.nsw.gov.au Email: d.goods@epa.nsw.gov.au

Northern Territory *NT WorkSafe* *GPO Box 1722* *Darwin NT 0801*	1800 019 115	Email: ntworksafe@nt.gov.au Facsimile: (08) 8999 5141
Queensland *Director-General* *Department of Transport and Main Roads* *GPO Box 1549* *BRISBANE QLD 4001* *Road Transport:* *Industry and Operator Authorisation* *Rail Transport:* *Rail Safety Regulation*	 (07) 3066 2995 (07) 3066 2453	Web: www.tmr.qld.gov.au Email: dgu@tmr.qld.gov.au Facsimile: (07) 3066 2453 Email: rsr@tmr.qld.gov.au Facsimile: (07) 3066 2917
South Australia Chief Officer Dangerous Substances Team Safework SA Attorney General Department GPO Box 465 Adelaide SA 5001	1300 365 255 (08) 8226 4785	Web: www.safework.sa.gov.au Email: dangerous.substances@sa.gov.au Facsimile: (08) 8226 4999
Tasmania *Manager, Dangerous Substances Unit* *Department of Justice* *WorkSafe Tasmania* *PO Box 56* *ROSNY PARK TAS 7018*	1300 366 322 (Local Calls) (03) 6166 4600 (Outside Tasmania)	Web: www.worksafe.tas.gov.au Email: wstinfo@justice.tas.gov.au Facsimile: (03) 6233 8338
Victoria *The Manager, Dangerous Goods* *Victorian WorkSafe* *Level 26* *222 Exhibition Street* *MELBOURNE VIC 3000*	 (03) 9641 1551	Web: www.worksafe.vic.gov.au Email: info@worksafe.vic.gov.au Facsimile: (03) 9641 1552
Western Australia *Chief Dangerous Goods Officer* *Department of Mines, Industry and Regulation Safety (DMIRS)* *Level 2, 1 Adelaide Terrace* *EAST PERTH WA 6004*	(08) 9358 8002	Web: http://www.dmp.wa.gov.au/Dangerous-Goods/Dangerous-Goods-258.aspx Email: ResourcesSafety@dmirs.wa.gov.au Facsimile: (08) 9358 8000

Classes and Divisions of Dangerous Goods

Refer to ADG 7.5, Chapter 2, page 43

Substances, including mixtures and solutions, and articles which are subject to the Dangerous Goods Code are divided into **9 classes**, according to the hazard or the most predominant of the hazards which they present. Some substances may have more than one hazard. This is known as a subsidiary hazard, or sub-risk. The substances are allocated the classification based on their primary hazard.

There are 9 **Classes** of Dangerous Goods. Some of the Classes are further broken down into **Divisions**.

Class 1: Explosives

Refer to ADG 7.5, Chapter 2.1, page 51

These substances or articles are used to produce explosions in work such as earthmoving or demolition. They are also used for pyrotechnic effects such as fireworks displays.
Transport of explosive substances which are unduly sensitive or so reactive as to be subject to spontaneous reaction is prohibited.
Examples: fireworks, ammunition, gelignite

Class 2: Gases

Refer to ADG 7.5, Chapter 2.2, page 66

Division 2.1 Flammable Gases

These gases at 20° and a standard pressure of 101.3kPa are (a) ignitable when in a mixture of 13% or less by volume with air; or (b) have a flammable range with air of at least 12% points regardless of the lower flammable limit. Most flammable gases are heavier than air and will flow to low areas such as drains, pits and valleys.
Examples: Acetylene, natural gas, LPG and many aerosols

Division 2.2 Non-flammable, non-toxic gases

These gases are (a) asphyxiant – they dilute or replace the oxygen normally in the atmosphere, or (b) are oxidizing – they may provide oxygen causing or contributing to the combustion of other material more than air does, or (c) do not fall under the other divisions - the gases in this class are neither flammable nor toxic. As these gases are heavier than air, they can collect in low-lying areas, such as pits and drains, and cause suffocation by dilution or displacing oxygen. Some of these gases have additional danger as an oxidizing agent (Division 5.1).
Examples: Carbon dioxide, compressed air, helium and nitrogen

Division 2.3: Toxic gases

These gases are known to be so toxic or corrosive to humans as to pose a hazard to health. Most toxic gases have an unpleasant odour that alerts to their presence.
Some of these gases are also flammable (Class 2.1), oxidizing agents (Class 5.1) or corrosive (Class 8). In some cases, a toxic gas can be both an oxidizing agent and corrosive (e.g. nitrogen oxide). In cases where gases and

gas mixtures have hazards associated with more than one division, Division 2.3 takes precedence over all others, and Division 2.1 takes precedence over Division 2.2
Examples: Chlorine, nitric oxide and ammonia

Class 3: Flammable Liquids

Refer to ADG 7.5, Chapter 2.3, page 70

These liquids can all burn on contact with a source of ignition. They are liquids, or mixtures of liquids, or liquids containing solids in a suspension, which give off a flammable vapour at temperatures of not more than 60°C or not more than 65.6°C depending on the flash point test.
The vapours from many of these substances have an effect similar to narcotics. Prolonged inhalation may result in unconsciousness or death.
Many paints and varnishes are in Class 3.
Examples: Petrol, acetone, kerosene and paint thinners

Class 4: Flammable Solids, Spontaneously Combustible and Dangerous When wet

Refer to ADG 7.5, Chapter 2.4, page 75

Division 4.1 Flammable Solids

These solids are easily ignited by external sources such as sparks and flames. They are also readily combustible and likely to cause or contribute to fire when subjected to friction. They may also be self-reactive (see Division 4.2)
Examples: Sulfur, red phosphorus and matches

Division 4.2 Substances Liable to Spontaneous Combustion

Substances in this class are likely to heat spontaneously and ignite.
Examples: Carbon, white phosphorus and calcium dithionite

Division 4.3 Substances which, in contact with water, emit flammable gases

These substances are liable to become spontaneously combustible or give off dangerous quantities of flammable or toxic gases when they make contact with water.
Examples: Calcium carbide and aluminium phosphate.

Class 5: Oxidizing substances and organic peroxides

Refer to ADG 7.5, Chapter 2.5, page 95

Division 5.1 Oxidizing substances

These substances are not in themselves combustible, but may, by yielding oxygen, cause or contribute to the combustion of other materials
Examples: calcium hypochlorite (i.e., swimming pool chlorine), ammonium nitrate and hydrogen peroxide

Division 5.2 Organic peroxides

Organic peroxides are unstable substances which may ignite spontaneously and possibly explode. Some of these substances need to be kept under controlled temperature conditions during storage and transport. In addition, some are sensitive to impact or friction and can react dangerously with other substances.
Organic peroxides contribute oxygen to a fire (see Division 5.1) and may also be flammable (see Class 3 or 4) or combustible (see Division 4.2) as subsidiary dangers
Examples: Methyl ethyl ketone peroxide, benzoyl peroxide

Class 6: Toxic and infectious substances

Refer to ADG 7.5, Chapter 2.6, page 124

Division 6.1 Toxic substances

Toxic substances can cause death or serious injury if they are swallowed, inhaled, or come into contact with skin
Nearly all toxic substances give off toxic gases (see Division 2.3) in a fire or when heated to decomposition.
Some are also flammable (see Class 3) or corrosive (see Class 8) as subsidiary dangers.
Examples: Cyanides, lead, cadmium, arsenic and many pesticides

Division 6.2 Infectious substances

These are substances known to, or reasonably expected to, contain pathogens, such as bacteria, viruses and parasites, which can cause life-threatening or fatal disease in humans and animals
Examples: live vaccines, medical and clinical wastes

In the ADG7 Code, substances in this Division are assigned two Categories: Category A and Category B.

Category A – an Infectious Substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.

Category B – An infectious substance which does not meet the criteria for inclusion in Category A.

Class 7: Radioactive materials

Refer to ADG 7.5, Chapter 2.7, page 139

This class includes materials or combinations of materials that spontaneously emit harmful levels of radiation.
Class 7 goods must be transported in compliance with the national Code of Practice for the Safe Transport of Radioactive Materials (available at arpansa.gov.au).
Each substance is given a generic name starting with "Radioactive Material" which appears on the label.
Examples: Uranium, plutonium radium and cobalt

Class 8: Corrosive substance

Refer to ADG 7.5, Chapter 2.8, page 142

A corrosive substance is one that will, by chemical action, destroy or permanently damage another substance it comes into contact with.
Corrosive solids or liquids can cause severe harm if they come in contact with living tissue. Many are sufficiently volatile to give off vapours that irritate the nose and eyes, and poisoning can result if they are swallowed.
Some corrosive substances will also produce toxic gas when decomposed by very high temperatures (See Class 2.3).
If they leak during transportation, many corrosives will damage or even destroy other goods or the vehicle itself
Examples: Hydrochloric acid, sodium hydroxide and acetic acid.

Class 9: Miscellaneous substances

Refer to ADG 7.5, Chapter 2.9, page 145

Miscellaneous

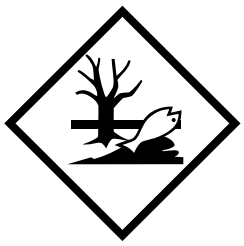
These are substances and articles that present a danger and or are not covered by other classes already described.
Examples: dry ice, asbestos, some aerosols and elevated temperature liquids such as hot bitumen.

Other Labels

Mixed class

The mixed class label indicates the presence of more than one class or division of dangerous good
It is used in Australia only.

Environmentally hazardous substances



These are liquids or solids, and solutions or mixtures of substances (such as preparations and wastes) that are pollutant to the aquatic environment and meet the criteria established in the ADG7 (UN Ns 3077 and 3082) must be marked with the environmentally hazardous substance mark
Examples: industrial waste

Elevated Temperature

This label indicates that the product is transported at elevated temperatures.
Transport Units and placardable units containing a substance that is transported or offered for transport in a liquid state at a temperature equal to or exceeding 100° C, or in a solid state at a temperature equal to or exceeding 240° C, must bear the elevated temperature mark

Oxidizing Gas

This label relates to substances of Division 2.2 with a sub risk of 5.1 and is valid only for land transport within Australia.
Examples: refrigerated liquid air, carbon dioxide and oxygen mixture, nitrous oxide

You can find the detailed description of each Class and Division of Dangerous Goods in Chapter 2 of the Australian Dangerous Goods Code, Edition 7.5

Subsidiary Risks

Refer to ADG 7.5, Chapter 1.2.1.2.13, page 26, for definition
Dangerous Goods may be assigned one or more subsidiary risks which indicate hazardous properties of the goods other than the main risk. An example of a sub-risk is UN 2012, Potassium Phosphide, which has been classified as Division 4.3 (Substances which, in contact with water, emit flammable gasses), with a sub risk of Division 6.1 (Toxic Substances). This substance is allocated Packing Group I.

UN Numbers and Proper Shipping Names

Refer to ADG 7.5, Chapter 3, from page 164
Dangerous goods are assigned to **UN Numbers** and **Proper Shipping Names** according to their hazard classification and their composition.

UN Numbers

UN numbers are four-digit numbers that identify hazardous substances, and articles (such as explosives, flammable liquids, toxic substances, etc.) in the framework of international transport. Some hazardous substances have their own UN numbers (e.g. acrylamide has UN2074), while sometimes groups of chemicals or products with similar properties receive a common UN number (e.g. flammable liquid, not otherwise specified, have UN1993).

A chemical in its solid state may receive a different UN number than the liquid phase if their hazardous properties differ significantly; substances with different levels of purity (or concentration in solution) may also receive different UN numbers.

UN numbers range from UN0001 to about UN3500 and are assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

The UN numbers have been adopted in the Australian Dangerous Goods Code 7th Edition.

In the ADG 7.5, you can find the UN numbers by searching the alphabetical listing of Dangerous Goods in Chapter 3, table 3.2.4.2 (page 518), or the Dangerous Goods List (3.2.3) which lists all goods by their UN Number, starting on page 174.

Proper Shipping Names

A **Proper Shipping Name** is the formal, universal name assigned to a substance along with its UN Number.

Where an article or substance is specifically listed by name in Chapter 3.2 of the ADG7, it must be identified in transport by the proper shipping name in the Dangerous Goods List. For dangerous goods not specifically listed by name, "generic" or "not otherwise specified" entries are provided to identify the article or substance in transport.

For details of generic or not otherwise specified entries, please see 2.0.2 of the ADG 7.5 and 3.2.6 Generic and NOS proper shipping names (from page 606)

Dangerous Goods List

Refer to ADG 7.5, Chapter 3, from page 164

To find a substance in the ADG7 Code, you can search by **alphabetical name** and or **UN Number**.

The alphabetical listing of dangerous goods starts on page 518 (Chapter 3, Table 3.2.4.2) and shows the name of the substance, along with the Class / Division, and UN Number.

When you have the UN Number, you can look up the substance in the Dangerous Goods List in Chapter 3 of the ADG 7.5, table 3.2.3, from page 174. This list provides you with the following information:

								Packaging and IBCs		Portable Tanks and Bulk Containers	
Content	**UN No**	**Name & Description**	**Class or Division**	**Sub-sidiary Risk**	**Packing Group**	**Special Provisions**	**Limited Quantities**	**Packing Instructions**	**Special Packing Provisions**	**Instruct-ions**	**Special Provisions**
Column No	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Example	2012	POTASSIUM PHOSPHIDE	4.3	6.1	I		0	P403			
Example	1203	MOTOR SPIRIT or GASOLINE or PETROL	3		II	243	1L	P001 IBC02		T4	TP1

To work out what the special provisions, packing instructions for Packaging and IBCs, Portable Tanks and Bulk Containers are, refer to the ADG 7.5, Chapter 3, 3.2.1, Structure of the Dangerous Goods List. (page 170)

Structure of the Dangerous Goods List

Refer to ADG 7.5, Chapter 3, from page 164

The Dangerous Goods List is divided into 11 columns –

COLUMN NUMBER	HEADING	CONTENT
Column 1	UN Number	The serial number assigned to the article or substance under the United Nations system
Column 2	Name and Description	Proper shipping names in uppercase characters, which may be followed by additional descriptive text in lowercase letters. Unless otherwise indicated the word solution in a proper shipping name means one or more named dangerous goods dissolved in a liquid that is not otherwise subject to the Code
Column 3	Class or Division	Class or Division of the dangerous good
Column 4	Subsidiary Risk	The Class or Division number of any important subsidiary risks identified
Column 5	Packing Group	The UN Packing Group Number (i.e., I, II, III) assigned to the article or substance. If more than one packing group is indicated for the entry, the packing group of the substance or formulation to be transported must be determined based on its properties
Column 6	Special Provisions	Refers to any special provisions that are relevant to the article or substance. The Special provisions apply to all the packing groups permitted for a particular substance or article unless specifically indicated
Column 7	Limited Quantities	Maximum quantity per inner packaging or article for transporting dangerous goods as limited quantities
Column 8	Packing Instruction	Alpha numeric codes which refer to the relevant packing instructions specified in section 4.1.4 of the Code. The packing instructions indicate the packaging (including IBCs, and large packaging) which may be used for the transport of substances and articles. A code including the letter "P" refers to packing instructions for the use of packaging described in Chapters 6.1, 6.2, 6.3 A code including the letters "IBC" refers to packing instructions for the use of IBCs described in Chapter 6.5 A code including the letters "LP" refers to packing instructions for the use of large packaging described in Chapter 6.6
Column 9	Special Packing Provisions	Alpha numeric codes which refer to relevant packing provisions
Column 10	Portable Tank and Bulk Containers / Instructions	A number preceded by the letter "T" which refers to the relevant instruction specifying the tank type(s) required for the transport of the substance in portable tanks A code including the letters "BK" refers to types of bulk containers used for the transport of bulk goods The gases authorized for transport in MEGCs are indicated in the column MEGC in packing instruction P200
Column 11	Portable Tank and Bulk Containers / Special Provisions	A number preceded by the letters "TP" referring to any special provisions that apply to the transport of the substance in portable tanks

Packing Groups

Refer to ADG 7.5, Chapter 2, 2.0.1.3 on page 45 for definition

For packing purposes, substances other than those of Classes 1, 2 and 7, Divisions 5.2 and 6.2, and other than self-reactive substances of Division 4.1, are assigned to three packing groups in accordance with the degree of danger they present.

Packing Group I = Substances presenting high danger
Packing Group II = Substances presenting medium danger
Packing Group III = Substances presenting low danger.

The packing group of the goods will determine the standard of the packaging used, the quantity that can be put in each package and the quantity of packages that can be carried on a truck before it is required to be marked.

The packing group to which a substance is assigned is indicated in the Dangerous Goods List in Chapter 3.2 of ADG 7.5.

2.0.1.4 Dangerous goods are determined to present one or more of the dangers represented by Classes 1 to 9 and divisions and, if applicable, the degree of danger on the basis of the requirements in Chapters 2.1 to 2.9 of ADG 7.5

2.0.1.5 Dangerous goods presenting a danger of a single class and division are assigned to that class and division and the degree of danger (packing group), if applicable, determined. When an article or substance is specifically listed by name in the Dangerous Goods List in Chapter 3.2, its class or division, its subsidiary risk(s) and, when applicable, its packing group are taken from this list.

2.0.1.6 Dangerous goods meeting the defining criteria of more than one hazard class or division and which are not listed by name in the Dangerous Goods List, are assigned to a class and division and subsidiary risk(s) on the basis of the precedence of hazards in 2.0.3 of ADG 7.5.

In the ADG7, the Packing Group of a substance is shown as part of the List of Dangerous Goods (Chapter 3) and may also be indicated in the section describing goods of that particular Class or Division (Chapter 2).

To identify the Packing Group of a Dangerous Goods, refer to the Listing of Dangerous Goods (by UN Number), ADG 7.5, Chapter 3, Part 3.2.3, starting on page 174 – refer to Column 5.

Placarding, Marking and Labeling

Refer to ADG 7.5, Chapter 5.2, from page 855

Unless otherwise advised it the ADG 7.5 Code, each package, IBC, cylinder, pressure drum, tube, MEGC or other unpackaged article must be marked with the proper shipping name, UN and the UN Number. An example is:

“CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Caprylyl chloride) N3265”

All Placardable Units (any receptacle, including an IBC, with a capacity of more than 500 kg (L)), must also be placarded with emergency information panels.

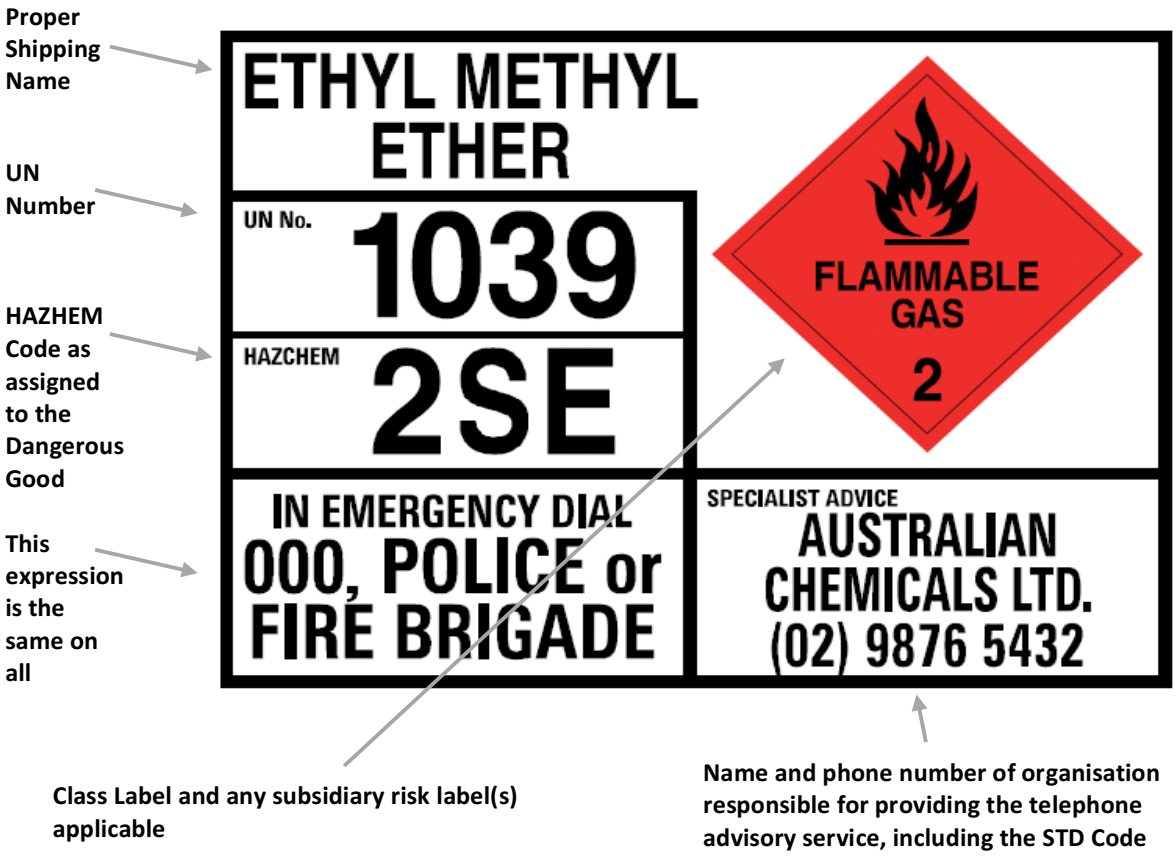
See 5.2.2.2.2 of the ADG 7.5, starting on page 866, for specimen labels

"Placard" means a class / division label or Emergency Information Panel (EIP) that is fixed to, stenciled or printed on, or placed in a frame that is fixed to a transport unit or placardable unit.

"Placard Load" mans a load in a transport unit that must be placarded under Chapter 5.3, based on the aggregate quantity of dangerous goods in the load, determined in accordance with Table.

5.3Emergency Information Panels

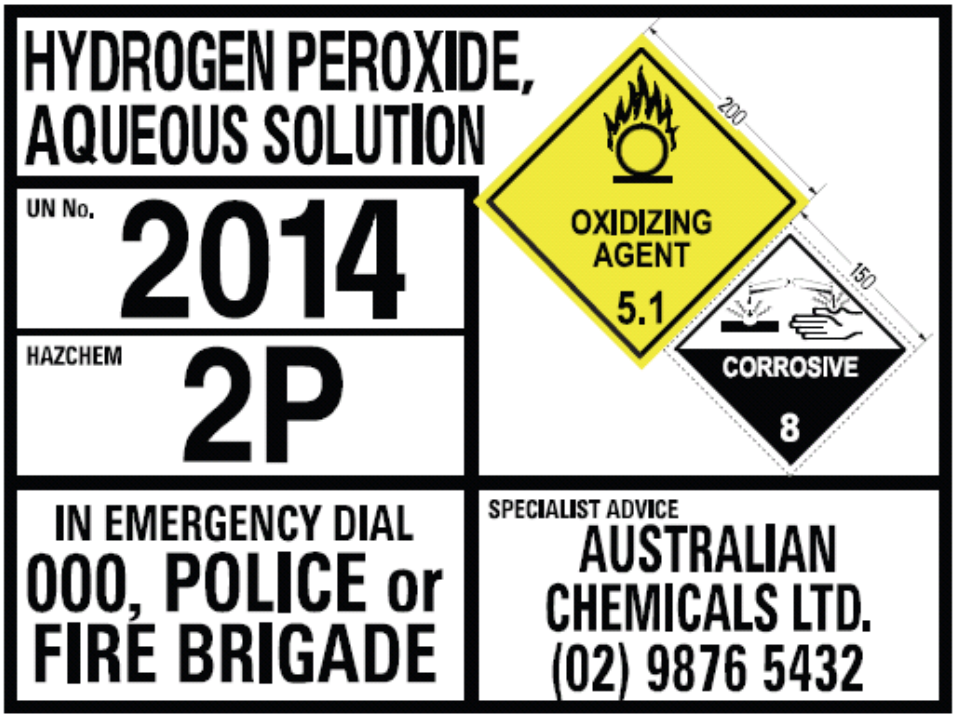
Refer to ADG 7.5, Chapter 5.3.1.3, page 876
An EIP is a placard that is set out to a standard (unless a variation is granted by the Competent Authority). The standard covers the size and content of the EIP. Sample EIP



Sample EIP Showing sub risk

Where the goods transported have a sub risk(s), the Class Labels for the relevant Classes or Divisions must also be represented in the space for Class or Division Labels, however those for the sub risk(s) are shown smaller than the assigned Class or Division label as shown below.

For more examples refer to page 882 of the ADG7, Figure 5.3.2 (c)



EIP Selection

5.3.5.3.1 A freight container in which only one type of dangerous goods is transported in placardable units must be placarded with emergency information panels describing those dangerous goods in accordance with 5.3.1.3.1.

5.3.5.3.2 A freight container in which different types of dangerous goods are transported in placardable units must be placarded with either:

a) multi-load emergency information panels in accordance with 5.3.1.3.2; or
b) emergency information panels for each of the dangerous goods in accordance with 5.3.1.3.1.

Placarding Requirements

Refer to ADG 7.5, Chapter 5.3.1, page 873

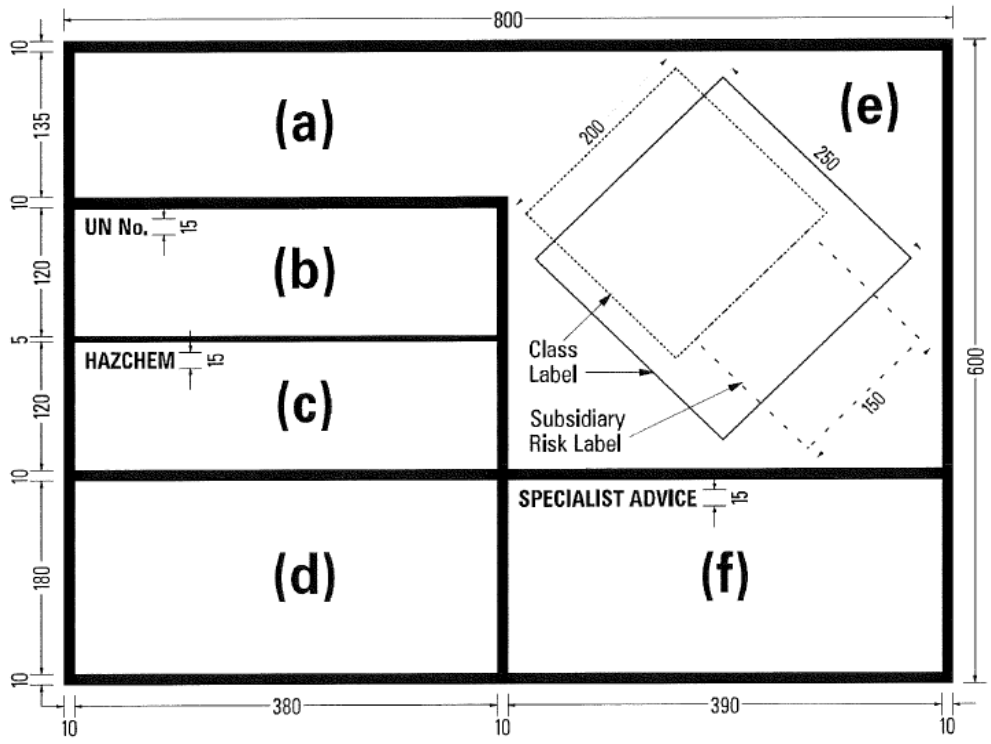
Placards must be affixed to the exterior surface of transport units that contain a placard load of dangerous goods as identified from Table 5.3 (reproduced below) and to placardable units, to provide a warning that the contents of the unit are dangerous goods and present risks.

Table 5.3 Placard Load (Minimum Quantities)

Dangerous Goods in Transport Unit	Placard Load Quantity
(a) Any dangerous goods in a receptacle with a: • Capacity >500 L; or • Net mass >500 kg •	One or more such receptacles (i.e. one or more placardable units)
(b) Includes any quantity of: • Division 2.1 (except Aerosols); or • Division 2.3; or • Packing group I of any Class or Division •	Aggregate quantity of all dangerous goods in the transport unit ≥ 250 kg (L)
(c) Division 6.2 Category A	All quantities
(d) Division 6.2 (other than Category A)	≥ 10 kg (L)
(e) All loads where Placarding is not required by (a), (b), (c) or (d) above	Aggregate quantity of dangerous goods ≥ 1000 kg (L) – unless the load is: (i) A retail distribution load that complies with 7.3.1 (-see note 3); or (ii) A Fumigated Unit (UN 3359 – see note 4)

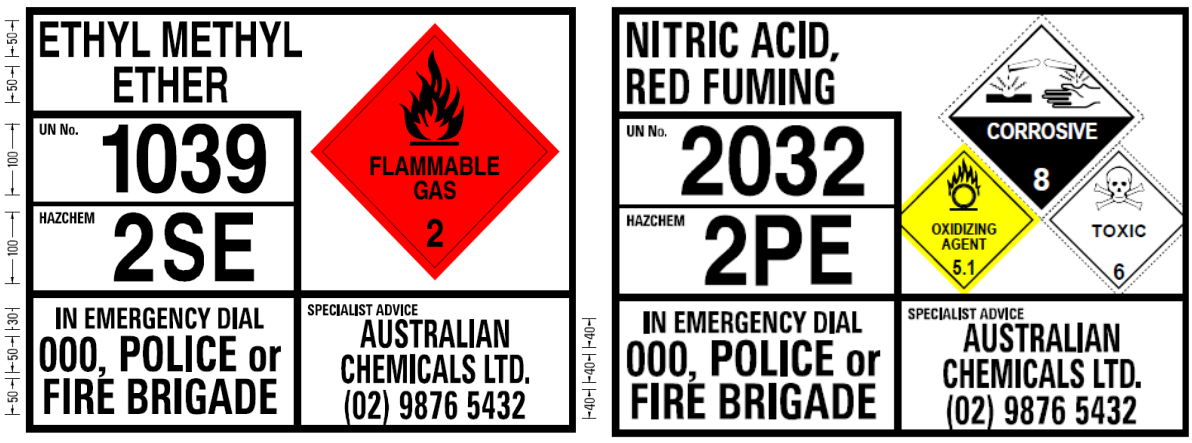
Note 1:	For Placarding quantities of Class 1, see the Australian Explosives Code.
Note 2:	For Placarding quantities of Class 7, see the Code of practice for the Safe Transport of Radioactive Substances.
Note 3:	Where the total load in a transport unit is a retail distribution load that has all of the characteristics prescribed in Section 7.3.1 including quantity limits, the load is not a placard load (-see 7.3.4)
Note 4:	A Fumigated Unit (UN 3359) complying with Chapter 5.5 that does not contain any other dangerous goods is not a placard load, and should not be included in the aggregate quantity of dangerous goods when determining a placard load.
Note 5:	For land transport wholly within Australia, this Code requires placards to be displayed on transport units if they contain a placard load, as determined from Table 5.3. It should be noted that transport units containing lesser quantities may need to be placarded in accordance with the IMDG Code before they are acceptable for transport by sea, even within Australian waters.

Format and Colour of an Emergency Information Panel (EIP)



Background: White
Lines and Text: Black
Measurements Shown are in Millimeters

Two Examples of Completed Placards for Ethyl Methyl Ether and Nitric Acid Red Fuming



Note: *Combustible Liquids are not required to be placarded under the Australian Dangerous Goods Code unless they are transported at elevated temperatures or if they are transported with other Dangerous Goods of Class 3 Flammable Liquids.*

Marking

5.3.2.1 Display of UN numbers

The requirements of this sub-section 5.3.2.1 do not apply to consignments of dangerous goods being transported only by road or rail within Australia.

NOTE: *5.3.2.1 is a requirement of UN17, the IMDG Code, ICAO Rules and IATA Regulations and therefore applies to all transport by sea and air. It is included here for the information of exporters or those intending to transport dangerous goods domestically by sea or air, and to assist in interpreting placarding and marking of containers arriving by sea or air.*

5.3.2.1.1 For transport by sea or air, the IMDG Code, ICAO Rules and IATA Regulations require that, except for goods of Class 1, the UN number must be displayed as described in this section on consignments of:

a) solids, liquids or gases transported in tank cargo transport units including on each component of a multi-compartment tank cargo transport unit; and
b) solids in bulk containers; and
c) packaged dangerous goods of a single commodity which constitute a full load for the cargo transport unit; and
d) unpackaged LSA-1 or SCO-1 material of Class 7 in or on a vehicle, or in a freight container, or in a tank; and
e) packaged radioactive material with a single UN number in or on a vehicle, or in a freight container, when required to be transported under exclusive use.

5.3.2.1.2 When required for intermodal transport, the UN number for the goods must be displayed in black digits not less than 65 mm high, either:

a) against a white background in the area below the pictorial symbol and above the class or division number and the compatibility group letter in a manner that does not obscure or detract from the other required label elements; or
b) on an orange rectangular panel not less than 120 mm high and 300 mm wide, with a 10 mm black border, to be placed immediately adjacent to each placard

Elevated temperature substances

5.3.2.2.1 Cargo transport units and placardable units containing a substance that is transported or offered for transport in a liquid state at a temperature equal to or exceeding 100 °C, or in a solid state at a temperature equal to or exceeding 240 °C, must bear the mark shown in Figure 5.3.4. The triangular shaped mark must have sides of at least 250 mm and must be shown in red. The mark must be placed on each surface of the unit that is required by this Chapter to be placarded, as near as is practicable to the class or division label.

5.3.2.2.2 Despite 5.3.2.2.1, where the prescribed mark for carriage at elevated temperature is incorporated as a subsidiary risk label in an emergency information panel, the sides of the triangle must measure at least 150 mm.

Environmentally Hazardous Substance Mark

5.3.2.3.1 Subject to Special Provision AU01 in Chapter 3.3, a cargo transport unit containing environmentally hazardous substances meeting the criteria of 2.9.3 (UN Nos. 3077 and 3082) must be marked with the environmentally hazardous substance mark (Figure 5.2.2). The mark must be placed on each surface of the unit that is required by this Chapter to be placarded, as near as is practicable to the class or division label.

5.3.2.3.2 If the environmentally hazardous substance mark is incorporated in an emergency information panel, the sides of the mark must measure at least 150 mm.

Exceptions to placarding road vehicles

5.3.6.4.1 Where a class, division or mixed class label is required to be displayed on the rear of a vehicle or side of a trailer or rigid vehicle by 5.3.6.1 or 5.3.6.2, it is sufficient compliance with those clauses if the label is incorporated in:

a) an emergency information panel displayed on the vehicle in accordance with 5.3.6.3; or
b) a placard in accordance with 5.3.3 on a placardable unit carried on the vehicle; or
c) a placard in accordance with 5.3.4 on a portable tank or bulk container carried on the vehicle; or
d) a placard in accordance with 5.3.5 on a freight container carried on the vehicle; or
e) that in each case faces, and is clearly visible from, the rear or side, as applicable, of the vehicle where it is required to be displayed.

Exception to placarding with EIPs

This section, 5.3.3 does not apply to a placardable unit that is being transported in a closed freight container that has been imported into, or is to be exported from Australia, if:

a) the placardable unit is marked and labelled in accordance with the applicable modal code (IMDG Code, ICAO Rules or IATA Regulations); and
b) the freight container is placarded in accordance with the applicable modal code (IMDG Code, ICAO Rules or IATA Regulations); and
c) no goods (dangerous or not) have been removed from or added to the freight container since:
    i. if imported: -its arrival in Australia; or
    ii. if to be exported: - the load was first consigned for transport to the place from which it is to be exported

Multi-load Emergency Information Panel

A multi-load emergency information panel is a placard substantially of the colour (unless otherwise exempted by the Competent Authority), format and design specified in Figure 5.3.2 that includes the following particulars:

a) in space (a) -nothing, the space is to be left blank;
b) in space (b) -the expression “MULTI-LOAD”;
c) in space (c) -the multi-load Hazchem Code ascertained in accordance with Appendix C for the combination of the dangerous goods being transported in the cargo transport unit or placardable unit;
d) in space (d) -the expression: “In emergency dial 000, POLICE or FIRE BRIGADE”;
e) in space (e):
    i. if the dangerous goods all belong to the same class or division: —the label appropriate to that class or division; or
    ii. if the dangerous goods do not all belong to the same class or division —the mixed class label (Model No. 10 in 5.2.2.2.3);
f) in space (f) -the name of an organisation responsible for providing the telephone advisory service and a telephone number of the service, including (STD) area Code.

Mixed Load (Refined Petroleum Product) Emergency Information Panel

A mixed load (refined petroleum product) emergency information panel, the use of which is subject to the conditions of 3.2.5.4, is a placard substantially of the colour (unless otherwise exempted by the Competent Authority), format and design specified in Figure 5.3.2 that includes the following particulars:

a) in space (a) -the expression “PETROLEUM FUEL”;
b) in space (b) -the expression “1270”;
c) in space (c) -the multi-load Hazchem Code ascertained in accordance with Appendix C for the combination of the dangerous goods being transported in the cargo transport unit or placardable unit;
d) in space (d) -the expression: “In emergency dial 000, POLICE or FIRE BRIGADE”;

e) in space (e) -a Class 3 label (model No. 3, see 5.2.2.2.2);
f) in space (f) -the name of an organisation responsible for providing the telephone advisory service and a telephone number of the service, including (STD) area Code.

Placarding Freight Containers

NOTE 1: This Section 5.3.5 applies to the placarding of freight containers loaded with dangerous goods in packages, large packages, over-packs, IBCs and other placardable units. Section 5.3.4 applies to freight containers that are used as bulk containers in accordance with Chapter 4.3.

NOTE 2: If the loaded container is intended for transport by sea or air, then:

a) the placarding threshold of this Code does not apply and placarding may be required for all loads that include dangerous goods (reference should be made to the IMDG Code, ICAO Rules or IATA Regulations as applicable)

b) see 5.3.2.1.1 to determine if the UN Number must also be displayed.

5.3.5.1 A freight container that contains a placard load of dangerous goods, as determined from Table 5.3, must be placarded in accordance with 5.3.1.4, on both long sides, with placards indicating what dangerous goods are contained, selected in accordance with 5.3.5.2.

Placard location

When a freight container must be placarded with class, division or mixed class labels, or with emergency information panels, each placard must be placed on the sides of the container so that when the container is placed on the vehicle, each different placard is visible from either side of the vehicle and in accordance with 5.3.1.4.

Placarding Road Vehicles

All placard loads

5.3.6.1.1 All road vehicles transporting a placard load of dangerous goods, as determined from Table 5.3, must be placarded in accordance with 5.3.1.4 on the front and rear with placards indicating what dangerous goods are being carried.

5.3.6.1.2 Where all of the dangerous goods are of a single class or division, the placards required by 5.3.6.1.1 are:

a) the class or division label; and
b) any subsidiary risk labels applicable to the goods

5.3.6.1.3 Where there is more than one class of dangerous goods on the vehicle during the journey, the placards required by 5.3.6.1.1 are either or both of the following:

a) mixed class labels (model No. 10 in 5.2.2.2.3);
b) all class and division labels for each primary and subsidiary risk of the dangerous goods on the vehicle, in accordance with 5.3.1.1.2 and 5.3.1.1.3.

5.3.6.1.4 If the vehicle is a combination road vehicle, additional placards must be fitted when required by 5.3.6.2.

5.3.6.1.5 Where some or all of the dangerous goods are carried in placardable units, bulk containers, portable tanks or tanks which are integral with the vehicle, additional placards must be fitted when required by 5.3.6.3.

Combination Road Vehicles

5.3.6.2.1 Sub-section 5.3.6.2 applies to a combination road vehicle where the aggregate quantity of dangerous goods carried on all units of the combination comprises a placard load.

5.3.6.2.2 The placards that must be fitted in accordance with 5.3.6.1 and 5.3.6.3 to the front and rear of a combination vehicle must be determined based on the aggregate load carried on all units of the combination vehicle.

5.3.6.2.3 In addition, placards must be fitted to both sides of each trailer or rigid vehicle that forms part of the combination and is individually carrying a placard load, indicating the dangerous goods that are carried on the individual unit.

5.3.6.2.4 Placards fitted to the sides of a unit in accordance with 5.3.6.2.3 must include:

a) class, division and/or mixed class labels determined in accordance with 5.3.6.1.2 and 5.3.6.1.3; and
b) emergency information panels determined in accordance with 5.3.6.3 if any of the dangerous goods on the unit are carried in bulk containers, tanks or placardable units.

Dangerous Goods in Bulk Containers, Tanks or Placardable Units

5.3.6.3.1 In addition to placards required by 5.3.6.1, a road vehicle on which any dangerous goods are carried in bulk containers, tanks or placardable units must be placarded with emergency information panels in accordance with this sub-section 5.3.6.3.

5.3.6.3.2 *Placement of Emergency Information Panels*

5.3.6.3.2.1 Except as provided in 5.3.6.4, emergency information panels, selected in accordance with 5.3.6.3.3, must be fitted:

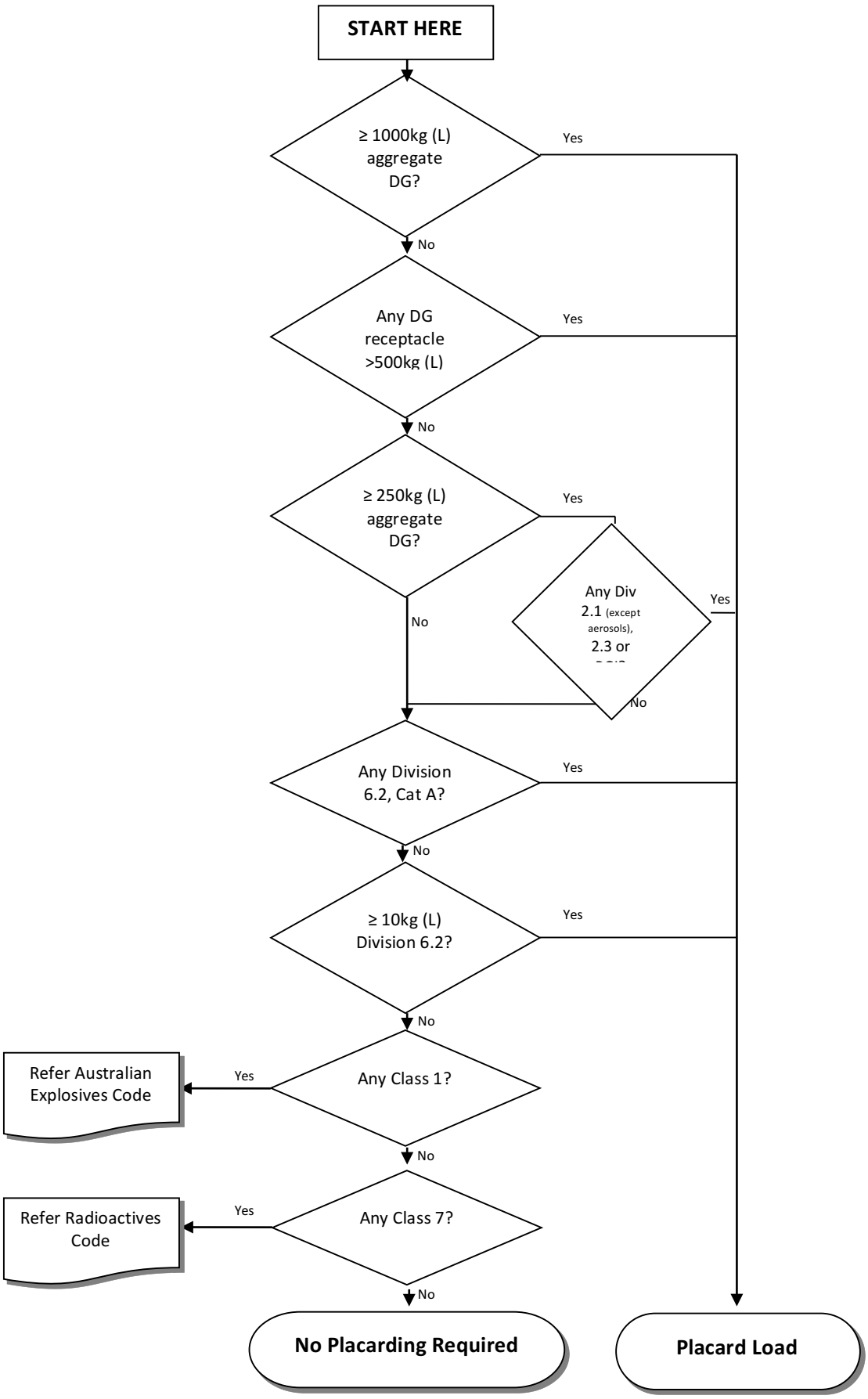
a) on the rear of a vehicle or vehicle combination on any part of which dangerous goods are carried in one or more bulk containers, tanks or placardable units; and
b) on the sides of each trailer or rigid vehicle on which dangerous goods are carried in bulk containers, tanks or placardable units.

5.3.6.3.2.2 Emergency information panels required by 5.3.6.3 must be placed on the vehicle:

a) in a substantially vertical plane; and
b) with the lower edge at least 450 millimetres* above the ground; and
c) when fitted to the sides of the vehicle, as close as practicable to the front of the loading area of the vehicle†; and
d) in accordance with 5.3.1.4

How do I... Determine when my vehicle requires placarding?

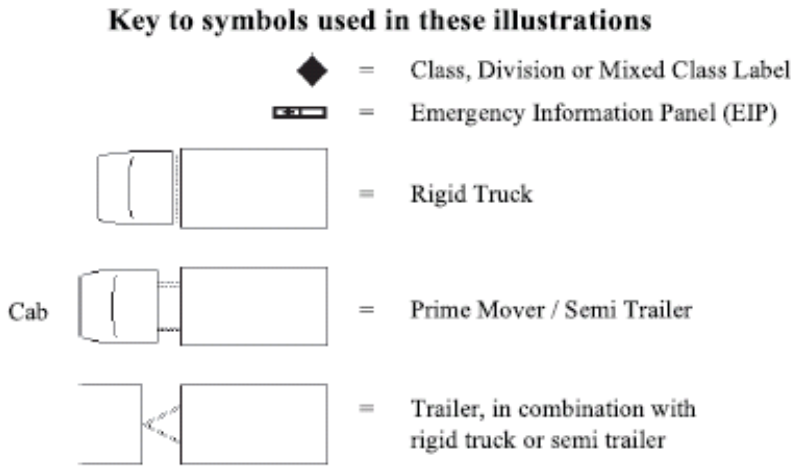
*Refer ADG7 Information Guide, **G43** for further detail and additional guidance*



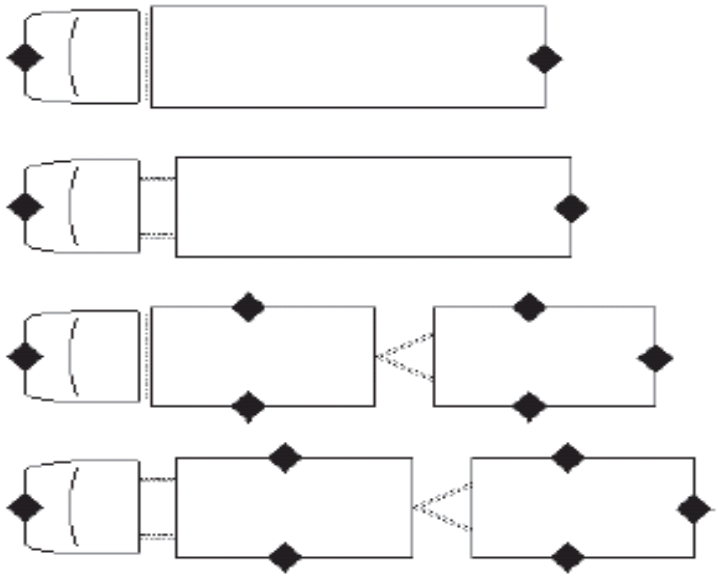
Placarding of Road Vehicles

Refer to ADG 7.5, Chapter 5.3.6, page 888

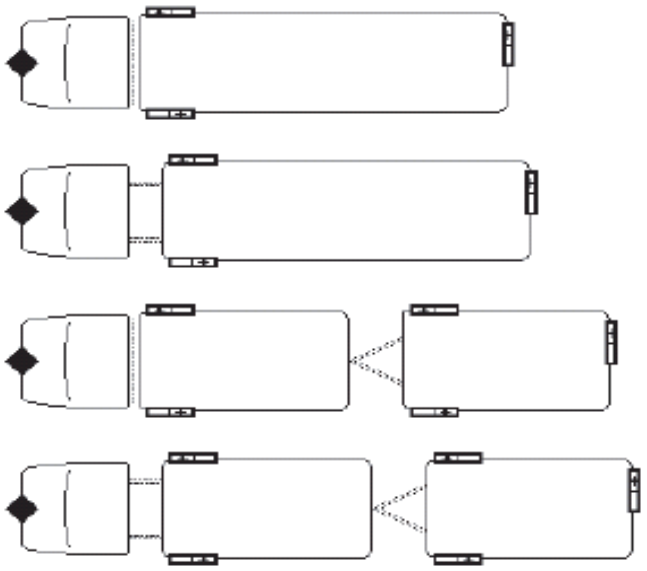
The figures below demonstrate the placement of placards on various configurations of road vehicles. For further information refer to Chapter 5, Figure 5.3.6, from page 894 of the ADG7. The illustrations are included for guidance only. They do not apply to all combinations of loads – refer to the text to ascertain the placarding requirements for any particular load.



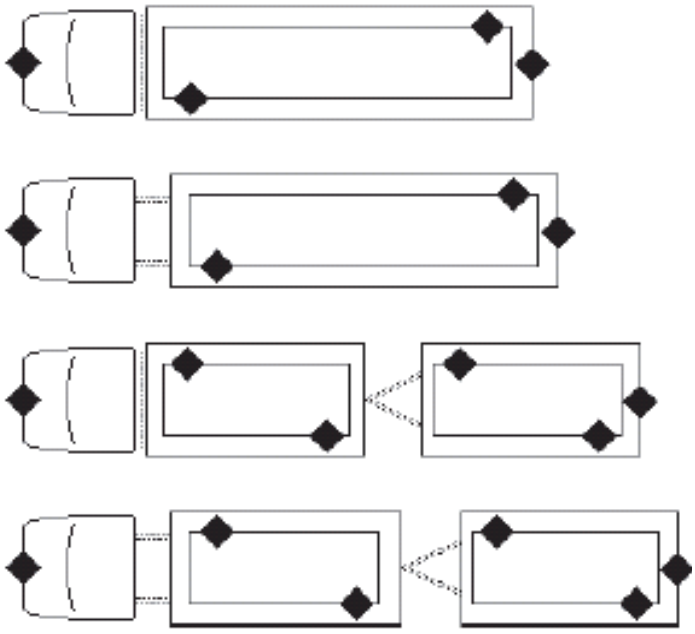
(a) Road vehicles and combination road vehicles transporting dangerous goods in:
(i) cylinders, packages, large packages, overpacks or;
(ii) pressure drums, tubes or IBCs each ≤500 kg (L)



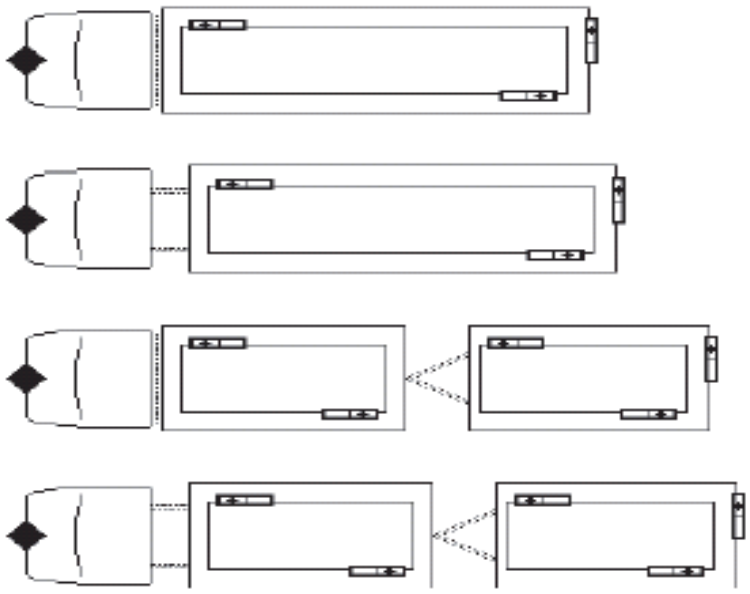
(b) Road tank vehicles and combination road tank vehicles



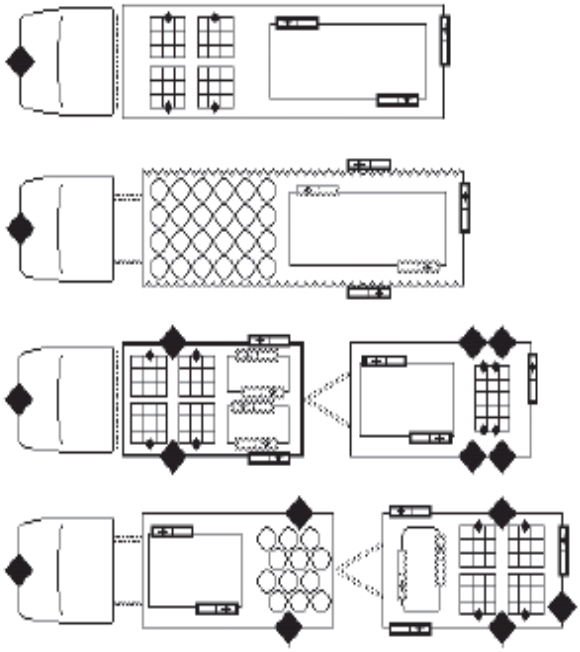
(c) Road vehicles and combination road vehicles transporting dangerous goods in freight containers (not containing placardable units)



(d) Road vehicles and combination road vehicles transporting portable tanks, bulk containers or placardable units displaying EIPs, or freight containers loaded with placardable units



(e) Road vehicles transporting dangerous goods both in packages etc and in placardable units



(i) –*Gated vehicle*
–*Same class goods in packages and placardable units*
–*EIPs on placardable units visible from side*

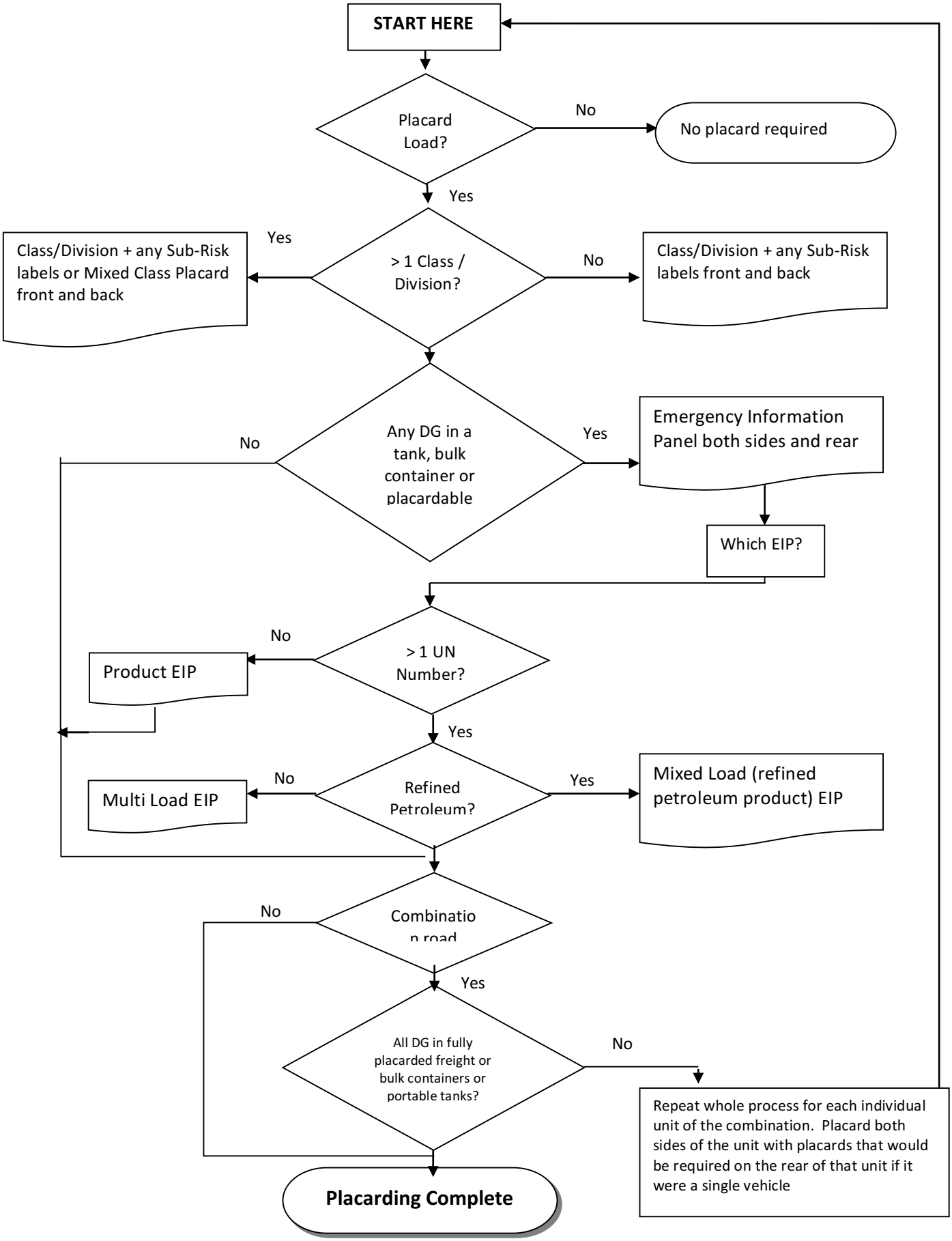
(ii) –*Curtain sided vehicle*
–*Same class goods in packages and placardable units*
–*EIPs on placardable units obscured*

(iii) –*Rigid truck fully enclosed, with packages and placardable units of different classes*
–*Gated trailer. Packaged goods have a sub risk and are different class to placardable unit*
–*Multi-load EIP on rear, Mixed Class label on front*

(iv) –*Gated combination vehicle*
–*Placardable units of one class, different materials*
–*Packages all one (different) class*
–*EIPs on trailer sides as placardable unit obscured*
–*Multi-load, one class EIP plus Class Label on rear*
–*Mixed Class on front, Class Label on all sides*

How do I… Determine what Placarding is required on my vehicle?

*Refer ADG 7 Information Guide, **G44** for further detail and additional guidance*



Exceptions to Placarding Road Vehicles

5.3.6.4.1 Where a class, division or mixed class label is required to be displayed on the rear of a vehicle or side of a trailer or rigid vehicle by 5.3.6.1 or 5.3.6.2, it is sufficient compliance with those clauses if the label is incorporated in:

a) an emergency information panel displayed on the vehicle in accordance with 5.3.6.3; or
b) a placard in accordance with 5.3.3 on a placardable unit carried on the vehicle; or
c) a placard in accordance with 5.3.4 on a portable tank or bulk container carried on the vehicle; or
d) a placard in accordance with 5.3.5 on a freight container carried on the vehicle; or

that in each case faces, and is clearly visible from, the rear or side, as applicable, of the vehicle where it is required to be displayed.

5.3.6.4.2 Where a road vehicle is transporting dangerous goods in a portable tank, bulk container, freight container or placardable unit, it is sufficient compliance with 5.3.6.3 if the emergency information panel required by that sub-section is placarded on the tank, container or unit such that it faces, and is clearly visible from, the side of the unit or rear of the vehicle where it is required to be displayed.

The Use of Bulk Containers (for solids)

This Code confines the use of the term 'bulk container' to a container used to transport solid substances in bulk. This differs markedly from usage in the 6th edition of this Code (see the definition of Bulk Container in 1.2.1.2.2).

4.3.1 GENERAL PROVISIONS

4.3.1.1 This section provides general requirements applicable to the use of containers for the transport of solid substances in bulk. Substances must be transported in bulk containers conforming to the applicable bulk container instruction identified by the letters BK in column 10 of the Dangerous Goods List, with the following meaning:

BK1: the transport in sheeted bulk containers is permitted
BK2: the transport in closed bulk containers is permitted
BK3: the transport in flexible bulk containers is permitted

The bulk container used must conform to the requirements of Chapter 6.8.

4.3.1.2 Except as provided in 4.3.1.3, bulk containers may only be used when a substance is assigned to a bulk container code in Column 10 of the Dangerous Goods List in Chapter 3.2.

4.3.1.3 When a substance is not assigned a bulk container code in Column 10 of the Dangerous Goods List in Chapter 3.2, a determination in accordance with Regulation 1.6.1(2) may be issued by the competent authority. The determination must be included in the documentation of the consignment and contain, as a minimum, the information normally provided in the bulk container instruction and the conditions under which the substance must be transported. Appropriate measures should be initiated by the competent authority to include the assignment in the Dangerous Goods List.

4.3.1.4 Substances which may become liquid at temperatures likely to be encountered during transport, are not permitted in bulk containers.

4.3.1.5 Bulk containers must be shift-proof and must be so closed that none of the contents can escape under normal conditions of transport including the effect of vibration, or by changes of temperature, humidity or pressure.

4.3.1.6 Bulk solids must be loaded into bulk containers and evenly distributed in a manner that minimises movement that could result in damage to the container or leakage of the dangerous goods.

4.3.1.7 Where venting devices are fitted they must be kept clear and operable.

4.3.1.8 Bulk solids must not react dangerously with the material of the bulk container, gaskets, equipment including lids and tarpaulins and with protective coatings which are in contact with the contents or significantly weaken them. Bulk containers must be so constructed or adapted that the goods cannot penetrate between wooden floor coverings or come into contact with those parts of the bulk containers that may be affected by the materials or residues thereof.

Before being filled and offered for transport each bulk container must be inspected and cleaned to ensure that it does not contain any residue on the interior or exterior of the bulk container that could:

a) cause a dangerous reaction with the substance intended for transport;
b) detrimentally affect the structural integrity of the bulk container; or
c) affect the dangerous goods retention capabilities of the bulk container.

4.3.1.10 During transport, no dangerous residues may adhere to the outer surfaces of bulk containers.

4.3.1.11 If several closure systems are fitted in series, the system which is located nearest to the substance to be transported must be closed first before filling.

4.3.1.12 Empty bulk containers that have contained a dangerous substance must be treated in the same manner as is required by this Code for a filled bulk container, unless adequate measures have been taken to nullify any hazard.

4.3.1.13 If bulk containers are used for the carriage of bulk goods liable to cause a dust explosion, or evolve flammable vapours (e.g. for certain wastes) measures must be taken to exclude sources of ignition and prevent dangerous electrostatic discharge during transport filling or discharge of the substance.

4.3.1.14 Substances, for example wastes, which may react dangerously with one another and substances of different classes and goods not subject to this Code, which are liable to react dangerously with one another must not be mixed together in the same bulk container. Dangerous reactions are:

a) combustion and/or evolution of considerable heat; or
b) emission of flammable and/or toxic gases; or
c) formation of corrosive liquids; or
d) formation of unstable substances.

4.3.1.15 Before a bulk container is filled it must be visually examined to ensure it is structurally serviceable, its interior walls, ceiling and floors are free from protrusions or damage and that any inner liners or substance retaining equipment are free from rips, tears or any damage that would compromise its cargo retention capabilities. Structurally serviceable means the bulk container does not have major defects in its structural components, such as top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts, and corner fittings in a freight container. Major defects include:

a) bends, cracks or breaks in the structural or supporting members that affect the integrity of the container; or
b) more than one splice or an improper splice (such as a lapped splice) in top or bottom end rails or door headers; or
c) more than two splices in any one top or bottom side rail; or

d) any splice in a door sill or corner post; or
e) door hinges and hardware that are seized, twisted, broken, missing, or otherwise inoperative; or
f) gaskets and seals that do not seal; or
g) any distortion of the overall configuration great enough to prevent proper alignment of handling equipment, mounting and securing chassis or vehicle, or insertion into ships' cells; or
h) any damage to lifting attachments or handling equipment interface features; or.
i) any damage to service or operational equipment.

4.3.1.16 Before a flexible bulk container is filled it must be visually examined to ensure it is structurally serviceable, its textile slings, load-bearing structure straps, body fabric, lock device parts including metal and textile parts are free from protrusions or damage and that inner liners are free from rips, tears or any damage.

4.3.1.16.1 For flexible bulk containers, the period of use permitted for the transport of dangerous goods must be two years from the date of manufacture of the flexible bulk container.

4.3.1.16.2 A venting device must be fitted if a dangerous accumulation of gases may develop within the flexible bulk container. The vent must be so designed that the penetration of foreign substances is prevented under normal conditions of transport.

4.3.2 ADDITIONAL PROVISIONS APPLICABLE TO BULK GOODS OF DIVISIONS 4.2, 4.3, 5.1, 6.2 AND CLASSES 7 AND 8

4.3.2.1 Bulk goods of Division 4.2

Only closed bulk containers (code BK2) may be used.
The total mass carried in a bulk container must be such that its spontaneous ignition temperature is greater than 55 °C.

4.3.2.2 Bulk Goods Of Division 4.3

Only closed bulk containers (code BK2) and flexible bulk containers (code BK3) may be used.
These goods must be transported in bulk containers which are waterproof.

4.3.2.3 Bulk Goods Of Division 5.1

Bulk containers must be so constructed or adapted that the goods cannot come into contact with wood or any other incompatible material.

4.3.2.4 Bulk goods of Division 6.2

4.3.2.4.1 *Bulk Transport Of Animal Material Of Division 6.2*
Animal material containing infectious substances (UN Nos. 2814, 2900 and 3373) is authorised for transport in bulk containers provided the following conditions are met:

a) Sheeted bulk containers BK1 are permitted provided that they are not filled to maximum capacity to avoid substances coming into contact with the sheeting. Closed bulk containers BK2 are also permitted.
b) Closed and sheeted bulk containers, and their openings, must be leak-proof by design or by the fitting of a suitable liner.

c) The animal material must be thoroughly treated with an appropriate disinfectant before loading prior to transport.
d) Waste goods of UN Nos. 2814 and 2900 in a sheeted bulk container must be covered by an additional top liner weighted down by absorbent material treated with an appropriate disinfectant.
e) Closed or sheeted bulk containers must not be re-used until after they have been thoroughly cleaned and disinfected.

NOTE: *Additional provisions may be required by health or environmental authorities.*

4.3.2.4.2 *Bulk wastes of Division 6.2 (UN 3291)*

a) Only closed bulk containers (BK2) are permitted;
b) Closed bulk containers, and their openings, must be leak-proof by design. These bulk containers must have non-porous interior surfaces and must be free from cracks or other features that could damage packaging inside, impede disinfection or permit inadvertent release;
c) Wastes of UN No. 3291 must be contained within the closed bulk container in UN type tested and approved sealed leak-proof plastics bags tested for solids of packing group II and marked in accordance with 6.1.3.1. Such plastics bags must be capable of passing the tests for tear and impact resistance according to ISO 7765-1:1988 "Plastics film and sheeting. Determination of impact resistance by the free-falling dart method. Part 1: Staircase methods" and ISO 6383-2:1983 "Plastics. Film and sheeting. Determination of tear resistance. Part 2: Elmendorf method". Each bag must have an impact resistance of at least 165 g and a tear resistance of at least 480 g in both parallel and perpendicular planes with respect to the length of the bag. The maximum net mass of each plastics bag must be 30 kg;
d) Single articles exceeding 30 kg such as soiled mattresses may be transported without the need for a plastics bag when authorised by the competent authority;
e) Wastes of UN No. 3291 which contain liquids must only be transported in plastics bags containing sufficient absorbent material to absorb the entire amount of liquid without it spilling in the bulk container;
f) Wastes of UN No. 3291 containing sharp objects must only be transported in UN type tested and approved rigid packaging meeting the provisions of packing instructions P621, IBC620 or LP621.
g) Rigid packaging specified in packing instructions P621, IBC620 or LP621 may also be used. They must be properly secured to prevent damage during normal conditions of transport. Wastes transported in rigid packaging and plastics bags together in the same closed bulk container must be adequately segregated from each other, e.g. by suitable rigid barriers or dividers, mesh nets or otherwise securing the packaging, such that they prevent damage to the packaging during normal conditions of transport;
h) Wastes of UN No. 3291 in plastics bags must not be compressed in a closed bulk container in such a way that bags may be rendered no longer leak-proof;
i) The closed bulk container must be inspected for leakage or spillage after each journey. If any wastes of UN No. 3291 have leaked or been spilled in the closed bulk container, it must not be re-used until after it has been thoroughly cleaned and, if necessary, disinfected or decontaminated with an appropriate agent. No other goods must be transported together with UN No. 3291 other than medical or veterinary wastes. Any such other wastes transported in the same closed bulk container must be inspected for possible contamination.

4.3.2.5 Bulk material of Class 7
4.3.2.6 Bulk goods of Class 8

Only closed bulk containers (code BK2) may be used.

Segregation of Dangerous Goods

Refer to ADG 7.5, Chapter 9.1 and 9.2, from page 1135

When incompatible dangerous goods come into contact with each other, they can react adversely to cause a fire or explosion, or release toxic, flammable or corrosive vapours.

As incompatible goods must be prevented from making contact, it is important to understand which goods must be kept apart to ensure they do not mix in case of spillage

The chart on the inside back cover of this hand book can be used to help determine if different combinations of dangerous goods are likely to be compatible and whether they need to be segregated during transport.

Segregation of incompatible goods must be in accordance with the ADG Code requirements.

Incompatibility

Incompatibility Based On Classification

9.1.2.1 Table 9.1 gives an indication of dangerous goods compatibility for land transport purposes, based on Classes, Divisions, Subsidiary Risks and some specific types of goods.

***NOTE 1**: Where it is indicated in Table 9.1 that goods of particular classification combinations are incompatible, then all goods of those combinations should be considered incompatible unless there is substantial documented evidence that particular goods are in fact compatible. This evidence could include a statement on the Safety Data Sheets* of both substances or articles that they are compatible.*

***NOTE 2**: Compatibility assessment based on Table 9.1 has no validity under the IMDG Code, ICAO Rules or IATA Regulations for sea and air transport.*

***NOTE 3**: Depending on other risk factors, compatibility assessment based on Table 9.1 may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.*

Explosives

9.1.2.2.1 Except where otherwise specially provided for in this Code and the Australian Explosives Code, goods of Class 1 are incompatible with dangerous goods of other classes.

9.1.2.2.2 For the purposes of this Code, dangerous goods of Division 1.4, compatibility group S are considered compatible with other dangerous goods provided the aggregate quantity of all dangerous goods in the cargo transport unit is less than a placard load.
***NOTE:** The Australian Explosives Code does not restrict the transport of Division 1.4S with other dangerous goods.*

Food and Food Packaging's

Despite an entry in Table 9.1 that food and food packaging's are incompatible with dangerous goods of Class 8, food ingredients that are Class 8 dangerous goods are not considered to be incompatible with other food ingredients if the intended use of those ingredients is for the manufacture of food,

or food ingredients, containing those ingredients (or like ingredients), with or without other ingredients.

Table 9.1 Incompatibility Based on Classification

Goods are considered incompatible if, in this table, any of the following conditions are met.

a) The primary hazard of one is incompatible with the primary hazard of another
b) The primary hazard of one is incompatible with the subsidiary risk of the other
c) A subsidiary risk of one is incompatible with the subsidiary risk of the other.

Class or Division	1	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6	7	8	9	Food or Food Empties	Fire Risk substances or combustible liquids
1.Explosives	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
2.1 Flammable Gas	(1)	**O**	**O(3)**	**O**	**O(2)**	**N**	**N**	**N**	**N**	**N**	**O**	**N**	**O**	**O**	**O**	**O**
2.2	(1)	**O(3)**	**O**	**O(4)**	**O**	**O**	**N**	**O**	**O**	**N**	**O**	**O**	**O**	**O**	**O**	**O**
2.3	(1)	**O**	**O(4)**	**N**	**N**	**O**	**N**	**O**	**N**	**N**	**O**	**O**	**O**	**O**	**N(8)**	**O**
3	(1)	**O(2)**	**O**	**O**	**O**	**O**	**N**	**O**	**N**	**N**	**O(6)**	**N**	**O**	**O**	**O**	**O**
4.1	(1)	**N**	**O**	**O**	**O**	**O**	**N**	**O**	**N**	**N**	**O**	**N**	**O**	**O**	**O**	**O**
4.2	(1)	**N**	**N**	**N**	**N**	**N**	**O**	**O**	**N**	**N**	**O**	**N**	**O**	**O**	**O**	**O**
4.3	(1)	**N**	**O**	**O**	**O**	**O**	**O**	**O**	**N**	**N**	**O**	**N**	**N**	**O**	**O**	**O**
5.1	(1)	**N**	**O**	**N**	**N**	**N**	**N**	**N**	**O(6)**	**N**	**O(5)**	**N**	**N**	**O(5)**	**O**	**N**
5.2	(1)	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**O**	**O(5)**	**N**	**N**	**O(5)**	**O**	**N**
6	(1)	**O**	**O**	**O**	**O(6)**	**O**	**O**	**O**	**O(5)**	**O(5)**	**O**	**O**	**O(6)**	**O**	**N(8)**	**O**
7	(1)	**N**	**O**	**O**	**N**	**N**	**N**	**N**	**N**	**N**	**O**	**O**	**N**	**O**	**N(8)**	**O**
8	(1)	**O**	**O**	**O**	**O**	**O**	**O**	**N**	**N**	**N**	**O(6)**	**N**	**O(6)**	**O**	**N(8)**	**O**
9	(1)	**O**	**O**	**O**	**O**	**O**	**O**	**O**	**O(5)**	**O(5)**	**O**	**O**	**O**	**O**	**O**	**O**

In this table:

0 means compatible unless a numbered exception applies.
N means incompatible unless a numbered exception applies.

Exceptions:

(1) Explosives are incompatible in transport with all other dangerous goods in all quantities except as provided in the Australian Explosives Code or, for Division 1.4S, where 9.1.2.2.2 applies
(2) Division 2.1 and Class 3 are incompatible in transport if both are in tanks or other receptacles with a capacity individually exceeding 500 L
(3) Division 2.1 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500 L capacity.
(4) Division 2.3 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500 L capacity.
(5) Class 5 is incompatible with those Class 6 or Class 9 materials that are fire-risk substances
(6) Some specific examples of these Classes or Divisions are incompatible —see Table 9.2.
(7) See the Code of Practice for the Safe Transport of Radioactive Substances regarding the compatibility of Class 7 with undeveloped photographic film, personnel and mail
(8) Food and food packaging's are incompatible with these classes in all quantities, except where 9.1.2.3 applies.

Note: Where it is indicated in table 9.1 that goods of some particular classification combinations are incompatible, then all goods of those classifications should be considered incompatible unless there is substantial documented evidence that particular goods are in fact compatible. This evidence could

include a statement on Safety Data Sheet of both substances or articles that shows that they are compatible.

When following the segregation rules, it is important to recognize that segregation applies to any subsidiary risk of the substance as well as the Primary Hazard.

In the case of truck and trailer combinations, b Doubles and Road trains with a few exceptions each trailer is considered to be a separate vehicle.

Specific Examples Of Incompatible Goods

Table 9.2 lists some examples of particular dangerous goods which are incompatible. The dangerous goods specified in an item in column 1 of Table 9.2 are incompatible with the dangerous goods specified in that item in column 2 of the Table.

Table 9.2 Examples of Particular Incompatible Dangerous Goods not Identified in Table 9.1

Dangerous Goods or Group of Dangerous Goods	Column 2 Goods Incompatible with Column 1 Group
- Ammonium nitrate	- Tetranitromethane - Dichloroisocyanuric acid - Trichloroisocyanuric acid - any: • bromate • chlorate • chlorite • hypochlorite • chloroisocyanurate • inorganic nitrite
- Calcium hypochlorite (Dry or Hydrated) and its mixtures	- Ammonium nitrate - Dichloroisocyanuric acid - Trichloroisocyanuric acid - any chloroisocyanurate
- Class 6	- Nitromethane
- Concentrated strong acids	- Concentrated strong alkalis
- Cyanide compounds	- Acids

Special Segregation Provisions

Despite 9.2.2.1, 9.2.2.2 and 9.2.2.3, some goods which react dangerously must not be transported on the same road vehicle or combination road vehicle or, when transported by rail, must be separated by intervening wagons or load platforms, in accordance with Table 9.3.

Table 9.3 Restricted Loads on Certain Vehicles

Row No.	Goods A Receptacle Size	Goods B Receptacle Size	Restriction	
			Road	Rail
1.	Any dangerous goods of Class 5 or subsidiary Risk 5.1 - ***>500kg (L)***	Any Dangerous goods of Class or Subsidiary Risk 3, or combustible Liquid - ***> 500 L***	a.	b.
2.	Any dangerous goods of Class 5 or subsidiary Risk 2.1 - ***> 500 L***	Any Dangerous Goods of Class or Subsidiary Risk 3, 4 or 5 - ***> 500kg (L)***	a.	b.
3.	Ammonium Nitrate of any Division in any Form (Incl. UN0222, 1942, 2067, 2071, 2426 and 3375) - ***> 500 L***	Any sensitising or initiating agent - ***Any***	a.	b.
4.	UN 3414 Sodium Cyanide Solution of Division 6.1 - ***> 500 L***	UN 2014, 2015 or 2984 Hydrogen Peroxide of Division 5.1* - ***Any***	a.	b.
5.	Any Cyanide of Division 6.1 - ***Any***	Any Acid of Class 8* - ***Any***	c.	D.
6.	Any Cyanide of Division 6.1 - ***>500kg (L)***	Any Acid of Class 8 - ***> 500L***	c.	e.
7.	Any Placard Load of Explosives - ***Any***	Any other placard load	f.	g.

NOTE*: A reference in this table to Goods A or Goods B: means those goods only while they are in receptacles of the sizes indicated, but does not include residues of those goods in those receptacles when they are nominally empty and this is clearly evident from the transport documentation in accordance with 11.1.3.1.*

Restrictions

a. *(Road)* Dangerous goods mentioned in the column headed Goods A must not be transported on any road vehicle at the same time as goods described as Goods B in the same numbered row of this table, even if the Goods A and Goods B are in different freight containers, bulk containers, portable tanks or different vehicles making up a combination vehicle.

c. *(Road)* A placard load on a road vehicle, including a combination vehicle, must not include at the same time, Cyanides of Division 6.1 and Acids of Class 8, in any quantity, even if they are in separate cargo transport units or on different vehicles making up a combination vehicle, unless Packaging for Segregation are used in accordance with 9.2.2.4.

f. *(Road)* See Australian Explosives Code.

General Requirements for Stowage and Restraint

8.1.2.1 [UN 7.1.1.4] Packages must only be loaded in cargo transport units which are strong enough to withstand the shocks and loadings normally encountered during transport, having regard to the conditions to be expected during the anticipated journey. The cargo transport unit should be constructed in such a way as to prevent the loss of contents. Where appropriate the cargo transport unit should be fitted with devices to facilitate securing and handling of the dangerous goods.

8.1.3.4 If dangerous goods of Class 2 that are secured in gas industry cylinder pallets (stillage), are transported on a vehicle or container described in 8.1.3.1:

a) the cylinders must be secured within the frame of the stillage, by a lashing system to meet the Load Restraint Guide; and
b) not more than 45% of the height of the cylinder may protrude above the stillage rail; and
c) the stillage must be stowed and restrained on the vehicle or open freight container in accordance with the Load Restraint Guide.

Open and Non-Rigid Sided Vehicles and Containers

8.1.3.1 This Section applies to the transport of dangerous goods on vehicles and freight containers that are not closed cargo transport units (e.g. stowed on an open tray or platform or in a curtain sided cargo transport unit).
NOTE: *Vehicles and freight containers with curtain sides are not closed cargo transport units and are therefore subject to this Section.*

8.1.3.2 Except where 8.1.3.4 or 8.1.3.5 applies, if unpackaged dangerous articles or dangerous goods in packages are transported on a vehicle or container described in 8.1.3.1:

a) they must be stowed and restrained within rigid sides or gates; and
b) no dangerous article or package containing dangerous goods may protrude above the sides or gates by more than 30% of the height of the article or package; and
c) no parts of an article or package may protrude horizontally beyond the sides or gates.

Goods too Dangerous to be Transported

Refer to ADG 7.5, Appendix A, from page 1179
Some dangerous goods are forbidden from transport. The ADG7 contains a list of goods which are considered too dangerous to be transported.

No Go Transport Zones in Western Australia

Refer to Regulations

Exemptions

Refer to Regulations
If you have an exemption from complying with any requirement of Western Australia's dangerous goods transport legislation (i.e., from the Competent Authority) you must keep a copy in the transport vehicle at all times. Exemptions must be produced upon request of an inspector or authorised officer or an emergency service

Documentation

Refer to ADG 7.5, Part 11, from page 1158

Transport Documentation

Refer to ADG 7.5, Part 11.1, from page 1158
The Regulations specify the requirements for documentation to be carried and who must provide that documentation.

Documentation may be in any form, provided that it contains all information as required by the ADG 7.5, including:

- The consignor's name and telephone number – which needs to be a contact number that can be used for advice about the substance, such as the Telephone Advisory Service
- A description of the dangerous goods to be transported, including
    - the UN Number,
    - proper shipping name,
    - class or division of the goods,
    - sub risk of the goods (if any),
    - packing group for the goods (if any),

- description of each type of package or other receptacle,
- the number of packages or receptacles of each type and
- the aggregate quantity of the goods

Where Dangerous Goods and Non-Dangerous Goods are transported together and on the same document, the dangerous goods must be listed first.

Note: *Where information appears on the transport document is optional except the Proper Shipping Name, UN Number and Class must appear first as shown below.*

Sample Transport Document

ADG	***Dangerous Goods Transport Document***				***Clients Copy***
FROM	*Bill Blogs Transport Company*		***TO***	*Cube Shipping*	
Driver				***Date:***	
Title	***Product 1***	***Product 2***	***Product 3***	***Product 4***	
Proper Shipping Name	*Motor Spirit*	*Ethanol*			
U.N. Number	*1203*	*1170*			
Class	*3*	*3*			
Subsidiary Risk (If Needed)					
Packing Group	*II*	*II*			
Type of Packaging	*200L drums*	*20L drums*			
Number of Packages	*10*	*12*			
Total Quantity	*2000*	*240*			
Consignors Name: Dash Chemicals AUST (08) 9316 2222		*We are not Common Carriers*			
Received in Good Order Name:		*Signature:*			

Transport of Empty Packaging's And Containers*

7.2.5 Transport of Pre-Labelled Packaging's, IBC's and Cylinders

Empty, as yet unused dangerous goods pre-labelled packaging's, IBCs and cylinders should be clearly identified as such on transport documentation, any outer packaging or the exterior of the cargo transport unit in order to avoid inappropriate emergency response.

Transport of Nominally Empty Receptacles

7.2.6.1 Nominally empty packaging, IBCs, portable tanks, bulk containers, road tank vehicles and rail tank wagons (other than those that have contained only dangerous goods of Class 2) that are not free from dangerous goods must be identified as such on transport documentation in accordance with Section 11.1.3.1.

7.2.6.2 Unless free from dangerous goods, nominally empty portable tanks, bulk containers, road tank vehicles and rail tank vehicles are always placard loads and must comply with all relevant provisions of this Code.

7.2.6.3 Cylinders, pressure drums, MEGCs, portable tanks and other pressure vessels (other than aerosols) that have contained dangerous goods of Class 2 and are not free from dangerous goods must comply with all relevant provisions of this Code as though filled with the dangerous goods.

Retail Distribution Loads

Characteristics

7.3.1.1 A load* that includes dangerous goods is a retail distribution load if it has all of the following characteristics:

a) all dangerous goods in the load are packed in accordance with either Chapter 3.4, or the Packing Instructions referenced from Column 8 of the Dangerous Goods List and any applicable Special Packing Provisions from Column 9 for the particular dangerous goods, and
b) except where otherwise permitted by Clause 7.3.1.2, no dangerous goods inner packaging or article is larger than the limited quantity specified for the dangerous goods in Column 7 of the Dangerous Goods List; and
c) the dangerous goods are packed and distributed in a form intended or suitable for sale through retail agencies for consumption by individuals for purposes of personal care or household use; and
d) the aggregate quantity of dangerous goods in the load does not exceed 20% of the total quantity of goods in the load; and
e) the aggregate quantity of dangerous goods in the cargo transport unit does not exceed 2000kg(L); and
f) the load does not include dangerous goods of Division 6.1 or Class 8 other than those that are packed and suitable for household use, such as:
    i. domestic pest control products; and
    ii. personal care products; and
    iii. domestic cleaning products; and
g) all the goods in the cargo transport unit are consigned to or from:
    i. a retail distribution centre; or
    ii. a retail outlet.

7.3.1.2 The following domestic consumer articles may be included in a retail distribution load, despite 7.3.1.1(a) and any entry in Column 7 of the Dangerous Goods List:

a) Party poppers; sparklers and bon bons, described as UN 0337 –FIREWORKS, of Division 1.4S; and
b) Domestic smoke detectors described as UN 2911 –RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS or ARTICLES, of Class 7; and
c) LIGHTERS or LIGHTER REFILLS UN 1057, of Division 2.1; and
d) FIRE EXTINGUISHERS with compressed or liquefied gas UN 1044, of Division 2.2.

7.3.2 Documentation

Where dangerous goods are transported in a retail distribution load in accordance with this Chapter, transport documentation in the form or to the effect of Figure B 2 in Appendix B may be provided instead of the transport documentation specified in Chapter 11.1.

7.3.3 Marking and Labelling

7.3.3.1 Where dangerous goods are packed at a retail distribution centre or retail outlet into outer packaging or over-packs that will be transported only as part of a retail distribution load, those outer packaging's and over-packs may be labelled with a mixed class label (model No. 10 in 5.2.2.2.3) in lieu of:

a) markings specified for limited quantities in 3.4.6 and 3.4.8; or
b) markings and labelling specified for packages in Chapter 5.2; or
c) markings and labelling specified for over-packs in 5.1.2.1.

7.3.3.2 Where a mixed class label is used in accordance with 7.3.3.1, it must have minimum overall dimensions of 100 mm by 100 mm and must be otherwise as shown in 5.2.2.2.3.

NOTE: *This marking and labelling concession is provided only to facilitate the packing of part or mixed cartons and over-packs at retail distribution centres and retail outlets for inclusion in a retail distribution load. This*

labelling will not be suitable for any other transport subject to this Code. This concession is not applicable to suppliers to the retail industry.

Table 5.2 Minimum Dimensions of Labels

Class or Article	Package, Packaging or Article	Minimum Dimensions of Labels	Recommended Minimum Size of Lettering (mm) [See 5.2.1.2(d)]
Class 2 (other Than Aerosols)	Cylinder of Outside Diameter <75mm	10 x 10	2.5
	≥ 75mm < 180	15 x 15	3
	≥ 180mm	25 x 25	5
	Pressure drum or tube ≤ 500L c.	100 x 100	7
Class 2 (Aerosols) b.	Aerosol Can Containing ≤ 25g	10 x 10	2
	>0.5kg ≤ 0.5 kg	15 x 15	2.5
	>5kg	20 x 20	3
Batteries Wet Filled with Acid, electric storage (UN 2794)	Battery with a gross mass of 65kg or less, but top surface only	20 x 20	3
All Others	Packaging or inner packaging containing: ≤0.5kg (L)	15 x 15	2.5
	>0.5kg (L) ≤ 5kg (L)	20 x 20	3
	> 5kg (L) ≤ 25kg (L)	50 50	5
	> 25kg (L)	100 x 100	7
	IBC ≤ 500kg (L) c.	100 x 100	7
	Large Packing, overpack, segregation device	100 x 100	12

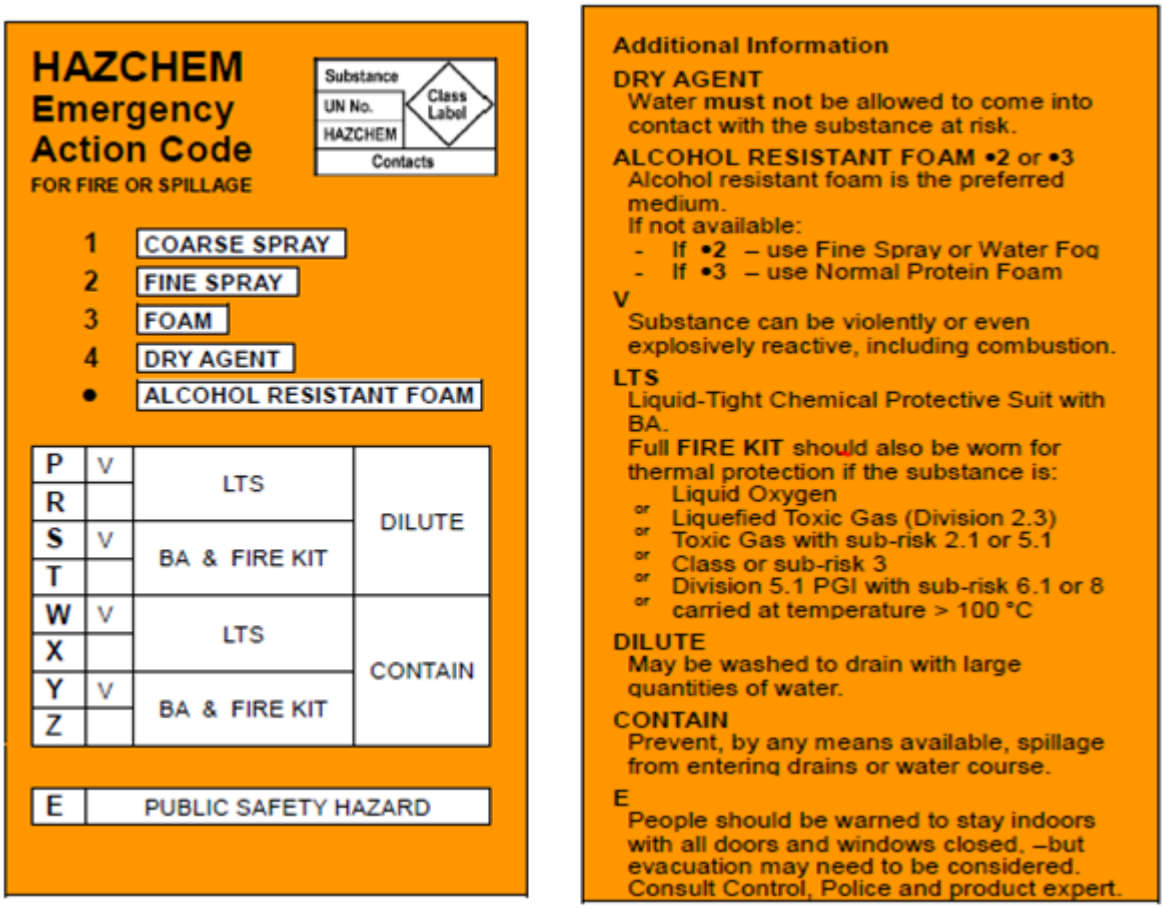
a. Where the space available on the package for labelling is limited and the Proper Shipping Name of the dangerous goods must be supplemented by a Technical Name (where special provision 274 is assigned to the particular entry in the Dangerous Goods List – see 3.1.2.8), the minimum height of the letters of the Technical Name or names may be reduced to not less than half the size stated in this table or 1.5 mm, whichever is the greater.
b. Under Special Provision 190, some small aerosols are not subject to this Code (see Chapter 3.3).
c. IBCs, pressure drums and tubes of capacity > 500 kg(L) are placardable units that must be placarded with emergency information panels in accordance with 5.3.3.

Hazard Emergency Action Code

The Revised Hazchem Pocket Card gives information on:

a) The Fire-fighting medium to be used by the use of numbers
b) Designation of personal protection
c) Risk of violent reactions
d) Requirements to contain or whether the material is able to be diluted and released
e) Indications relating to evacuations

Hazchem Emergency Action Code Card



The Number indicates the type of extinguishing medium suitable for fighting the fire:

1 Course Spray
2 Fine spray
3 Foam
4 Dry Agent
- Alcohol Resistant Foam

Note: The numbers with a bullet header indicate that if alcohol Resistant Foam is not available then the number tells you what extinguisher can be used instead.

LTS = Liquid – Tight Chemical Protective Suit with BA

BA = Breathing Apparatus

V = Violent Reaction Possible

Scope and Application

C1.1 This Appendix provides additional information that may be useful in event of an emergency, for most dangerous goods listed in the Dangerous Goods List in Chapter 3.2. For those UN Numbers to which they have been allocated, two codes are listed in C3, as follows:

a) the HAZCHEM Code, as listed in the Dangerous Goods Emergency Action Code List 2013, published by HM Fire Service Inspectorate of the United Kingdom; and
b) the Hazard Identification Number (HIN) assigned in ADR and RID, which is provided for information purposes only.

C1.2 When dangerous goods are transported in portable tanks, demountable tanks, multiple element gas containers, bulk containers or tank vehicles, it is a requirement of Chapter 5.3 of this Code that the Hazchem Code be displayed on the emergency information panel. This Hazchem Code should be determined from the list in C3.

C1.3 The codes allocated and shown in the list in C3 apply to transport of the single substance by road or rail. These codes will not necessarily apply for non-transport incidents although they may be used to provide some indication of the action that may be necessary.

C2 Hazchem Codes

NOTE: *The Hazchem Code is fully titled "Hazchem Emergency Action Code". In European publications, it is now frequently referred to simply as "Emergency Action Code" or "EAC".*

C2.1 General

C2.1.1 A Hazchem Code offers guidance on appropriate initial emergency response in a potentially dangerous situation such as leakage, spillage or fire involving the dangerous goods to which it relates.

C2.1.2 The Hazchem Code is composed of a number, followed by one or more letters as detailed in C2.2–C2.65.

C2.1.3 Hazchem Codes are allocated to most dangerous goods in Column 2 of the table at C3.

C2.1.4 In some cases, there is more than one EAC shown in C3 for a single UN number. In each such instance, a notation which is explained at the end of the table indicates how to determine which of the multiple entries applies e.g. for UN 1224 Ketones where two Hazchem Codes are listed –the notation (3) next to the entry 3YE indicates that this EAC applies only to ketones of packing groups I and II –3Y therefore applies to packing group III.

C2.1.5 Substances in Class 7, i.e. radioactive material, have not been allocated Hazchem Codes.

C2.2 Extinguishing Media

C2.2.1 The firefighting extinguishing media is determined by reference to the first character of the EAC as follows:

1 denotes coarse water spray
2 denotes fine water spray
3 denotes **normal foam** i.e. protein based foam that is not alcohol resistant
4 denotes **dry agent** —water **MUST NOT** be allowed to come into contact with substance

NOTE: *Any higher number than the one shown can be used but a lower number must not be used.*

C2.2.2 A bullet sometimes precedes the number 2 or 3 in the list in C3.

- **2** and
- **3**, have the following meanings
- **2** denotes that **alcohol resistant foam** is the preferred firefighting medium but, if it is not available, fine water spray can be used
- **3** denotes that **alcohol resistant foam** is the preferred firefighting medium but, if it is not available, normal foam can be used.

For example, the Hazchem Code assigned to UN 1193 Ethyl Methyl Ketone in C3 is

- 2YE.
- here indicates to the emergency services that alcohol resistant foam is the preferred firefighting medium. However, if such foam is not available, fine water spray, as the next most effective medium should be used.

Table C1 Meaning of Second Character of Hazchem Code

Letter	Risk of Violent Reaction or Explosion	Recommended Personal Protective Equipment	Appropriate Measures
P	Yes	Liquid Tight Chemical Protective Clothing and breathing apparatus	Dilute
R	No		
S	Yes	Full fire kit and breathing apparatus	
T	No		
W	Yes	Liquid Tight Chemical Protective Clothing and breathing apparatus	Contain
X	No		
Y	Yes	Full fire kit and breathing apparatus	
Z	No		

NOTE: *See C 2.3 to C2.5 for further details.*

C2.3 Personal protection

C2.3.1 Where the second character of the EAC is S, T, Y or Z, normal firefighting clothing is appropriate, i.e. self-contained open circuit positive pressure compressed air breathing apparatus, worn in combination with fire kit, firefighters' gloves and firefighters' boots.

NOTE 1: *Leather boots may not provide adequate chemical resistance and therefore caution should be exercised in their use.*

NOTE 2: *Letters S, T, Y and Z, which in previous editions of this Code were shown in reverse printing or square brackets for some dangerous goods, are now always shown in normal print, indicating that breathing apparatus should be used for all significant incidents.*

NOTE 3: *LP Gas, which in previous Codes was assigned an EAC of 2WE, is now assigned to 2YE in recognition that the most important personal protection from this substance is thermal protection that is best provided by full fire kit, including breathing apparatus.*

C2.3.2 Where the second character of the EAC is P, R, W or X, liquid-tight chemical protective clothing in combination with breathing apparatus specified in C2.3.1, should be used.

C2.3.3 For some substances for which liquid-tight chemical protective clothing is indicated, full fire kit should also be worn for thermal protection. This applies to incidents involving the following substances when they are assigned to P, R, W, or X:

a) UN 1073 Oxygen, Refrigerated Liquid;
b) All Division 2.3 Toxic Gases when transported in the liquefied state;
c) Any Division 2.3 Gas with a Subsidiary Risk of 2.1 or 5.1;
d) Class or Subsidiary Risk 3 liquids;
e) Division 5.1 substances of packing group I, having a Subsidiary Risk of 6.1 or 8;
f) Substances transported at elevated temperature > 100 °C.

However, an incident controller may determine, through a risk based assessment, that full fire kit need not be worn.

C2.4 Violent Reaction

C2.4.1 Where the second character of the EAC is a P, S, W or Y there is a danger that the substance can be violently or explosively reactive. This danger may be present due to one of the following:
- Violent or explosive decomposition of the material involved, including ignition or friction.

- The ignition of a flammable gas or vapour cloud (this danger exists for all flammable gases and flammable liquids with a flash point below 60 degrees)

- The rapid acceleration of combustion due to the involvement of an oxidiser.

- A reaction with water which is itself violent, and may also evolve flammable gases.

C2.4.2 The actual dangers present can be determined from the placards on vehicles or containers, or by reference to the classes, divisions and subsidiary risks shown on the transport document.

C2.5 Contain/dilute

Where the second character of an EAC is W, X, Y or Z spillages and decontamination run-off should be prevented from entering drains and watercourses. Where the second character of the code is P, R, S or T spillages and decontamination run-off may be washed to drains with large quantities of water. Due care must however still be exercised to avoid unnecessary pollution of watercourses.

NOTE 1: *Ideally most contamination and decontamination run-off should be contained. However, this will not always be practical for normal* emergency services *operations,* as *lifesaving operational procedures must take precedence over other considerations at the scene of an incident. Nevertheless, all steps that are reasonably practicable should be taken to contain contaminants and the* emergency service *should always inform the* environmental authority *as soon as possible so that appropriate advice can be given.*

NOTE 2: *Potentially polluting substances, even apparently harmless substances such as food and beverages, can cause serious problems if discharged into a watercourse e.g. 250 litres of a soft drink,* milk *or beer would constitute a pollutant as it can lead to deoxygenation of the water. Firefighting foams are also a potential source of pollution and their entry into watercourses and drainage systems should be prevented whenever possible.*

C2.6 E "Public Safety Hazard"

An 'E' following the first two characters of an EAC indicates that there may be a public safety hazard outside the immediate area of the incident, and that the following actions should be considered:

C2.6.1 People should be warned to stay indoors with all doors and windows closed, preferably in rooms upstairs and facing away from the incident. Ignition sources should be eliminated and any ventilation stopped.

C2.6.2 Effects may spread beyond the immediate vicinity. All non-essential personnel should be instructed to move at least 250 metres away from the incident.

C2.6.3 Police and Fire Brigade incident commanders should consult each other and with a product expert, or with a source of product expertise.

C2.6.4 The possible need for subsequent evacuation should be considered, ***but it should be remembered that in most cases it will be safer to remain in a building than to evacuate***. Some situations where evacuation may be necessary are listed in Table C2.

Table C2 Situations Where Evacuation May be Necessary

EXAMPLES	ASSESSMENT
1.(i) Smoke from product fire which is allowed to burn out. (Often the safest and least environmentally damaging option.) (ii) Small/low concentration long lasting toxic emission.	Nuisance effects will last several hours. Smoke or gas concentrations in open air are unpleasant but short-term exposure is not likely to be dangerous
2. A larger long lasting toxic gas emission which will be carried towards an inhabited area after a predicted wind change not due for at least two hours.	Area considered for evacuation will not be exposed to significant danger for at least an hour, preferably longer.
3. Evacuation of people from an isolated house in the country may be feasible, possibly using additional BA sets.	Downwind area is very sparsely populated and resources are available to protect people during their evacuation.
4.(i) Righting a loaded road tanker or rail tank wagon, especially one carrying a liquefied gas. (ii) Recovering or clearing petrol from drains.	Area considered for evacuation could be exposed to danger as a result of actions necessary to restore normality at a time determined by the recovery team.

Assigning Hazchem Codes to multi-loads

The following procedure must be used to assign a Hazchem Code to a vehicle or cargo transport unit transporting more than one type of dangerous goods to which different Hazchem Codes are assigned by C3.

C2.7.1 1st character of the code

The number forming the first character of the code for a multi-load is the highest of the numbers occurring in the EACs for the individual dangerous goods. Any bullet incorporated in one or more of the EACs (e.g. in

- YE) should be ignored, unless:
  a) the EACs for all the dangerous goods in the load include a bullet; or
  b) there is a polar chemical in the load (regardless of how much, or how little, of that chemical is in the load).

C2.7.2 2nd Character of the code

C2.7.2.1 The letter forming the second character of the code should be determined from the first letter of the EAC for each of the dangerous goods from the chart below.

Code chart for determination of emergency action codes for multi-loads

	P	R	S	T	W	X	Y	Z
P	P	P	P	P	W	W	W	W
R	P	R	P	R	W	X	W	X
S	P	P	S	S	W	W	Y	Y
T	P	R	S	T	W	X	Y	Z
W	W	W	W	W	W	W	W	W
X	W	X	W	X	W	X	W	X
Y	W	W	Y	Y	W	W	Y	Y
Z	W	X	Y	Z	W	X	Y	Z

C2.7.2.2 If the letter forming the second character of the code for each of the dangerous goods is the same, then that letter will automatically form the second character of the EAC for the multi-load.
C2.7.2.3 If however, the letter forming the second character of the code for each of the dangerous goods is different, then one of those letters should be selected along the top row of the chart and then a second

letter should be selected down the far left-hand column i.e. the two bold sections. The letter in the square where the appropriate column and row meet is the 'resultant letter' for those two substances. If there are only two dangerous goods to be carried in the multi-load, then that resultant letter is the letter forming the second character of the EAC for that multi-load.

C2.7.2.4 If there are more than two dangerous goods to be carried in the multi-load, then use the 'resultant letter' obtained in paragraph C2.7.2.3 along the top row as above and select another letter down the far left-hand column as above. The letter in the square where the appropriate column and row meet is the new 'resultant letter'. If there are no more dangerous goods to be carried in the multi-load, then that 'resultant letter' is the letter forming the second character of the code. If there are any further dangerous goods to be carried, then this procedure must be repeated until all the other letters have been used.

C2.7.3 Letter 'E'
The letter 'E' must be included as the third character in the multi-load emergency action code if it occurs in the EAC of any of the dangerous goods to be carried. If the letter 'E' does not occur in any of the EACs of the dangerous goods to be carried, the EAC will be just a two-character code determined from C2.7.2 above.

Example of how to calculate the emergency action code for a multi-load:

There are three substances to be carried as a multi-load, having emergency action codes of 3Y, ● 2S and 4WE.

1ST CHARACTER (NUMBER)
The first character of the EAC for each of the three substances is 3, 2 and 4. The highest number must be taken as the first character of the code for the multi-load and therefore the first character will be 4. The bullet in ● 2S is not assigned to the mixed load because other EACs do not include a bullet.

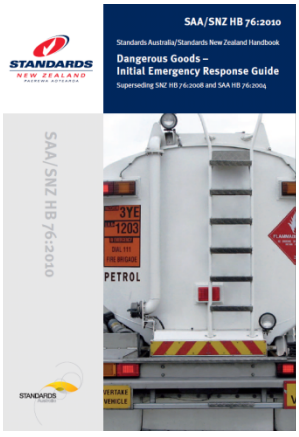
2ND CHARACTER (LETTER)
The second character for the EAC for each of the three substances is Y, S and W. Taking the Y along the top row of the chart and the S along the left-hand column, the intersection is at Y and therefore the character for the first two substances would be Y. This resultant character (Y) is then taken along the top row and the character for the third substance (W) is taken along the left-hand column. The intersection point is now W. The second character of the code for the three substances is therefore W.

LETTER 'E'
The third substance has an 'E' as a third character and therefore the multi-load must also have an 'E'.
The resultant Hazchem Code for the three substances carried as a multi-load will therefore be 4WE.

Emergency Information

Refer to ADG 7.5, Chapter 11.2, from page 1165

Emergency Information must be carried for all placard loads of dangerous goods.



Emergency Information in relation to dangerous goods transported on a vehicle includes:

a) the Dangerous Goods Guide, the Initial Emergency Response Guide; or
b) an emergency procedure guide for the dangerous goods transported on the vehicle and the emergency procedure guide in relation to vehicle fire

The emergency information must be carried in the Emergency Information Holder together with the Transport Documentation and carried in the driver's door at all times.

Transport Emergency Response Plan (TERP)

A TERP is a Transport Emergency Response Plan which sets out the procedures to be followed in the event of an emergency involving transport of placard load of dangerous goods. It is required under regulations. It is not usually carried on the vehicle. The responsibility of the driver (usually the first person at the scene who can take action) will typically be to contact Emergency Services, the Prime Contractor and to take action to secure the scene and manage public safety.

A TERP would give you the following information, but is not limited to:

1) What to do in the event of an emergency:
    a) Make the site safe
    b) Assist any injured persons
    c) Keep bystanders out of harm's way
    d) Contain spills if possible
    e) Warn any stake holders
    f) Secure the site and make sure that nothing is moved
2) Who to ring
    a) Work Number (They would probably ring emergency responder and essential services while you keep things under control)
    b) Emergency Response Provider (All DG Carriers must have one)
    c) Essential services – Fire Brigade, Police and Ambulance
3) Assist ERT where possible
4) Clean up site
5) Hold a debriefing for all stake holders
6) Provide counseling for persons that need it

Breakdowns

Refer to ADG 7.5, Chapter 13.1.2, page 1174

If a road vehicle transporting dangerous goods is disabled on a road or street, or has stopped and constitutes a traffic hazard:

1) Turn the hazard lights on and leave them flashing while the vehicle is stopped - If the battery has not been disconnected to prevent danger and there are flashing hazard lights on the vehicle
2) If there are no hazard lights, turn on the parking lights and leave them on while the vehicle is stopped
3) Place portable warning devices on the ground so that it can be best seen by approaching traffic in each of the following locations:
    (i) not less than 50 meters and not more than 150 meters in front of the vehicle
    (ii) not less than 50 meters and not more than 150 meters behind the rear of the vehicle
    (iii) beside the vehicle eon the side closer to traffic

General Precautions including passengers, parking requirements, unloading, uncoupling, routes

Refer to ADG 7.5, Chapter 13.1, from page 1174

Passengers

No person apart from the following may ride in the cabin of a road vehicle transporting dangerous goods:

a) an authorised officer, police officer or officer of an emergency service, or a person authorised to ride in the vehicle by such a person; or
b) an employee of, or another person authorised to ride in the vehicle by, the owner of the vehicle or the prime contractor.

13.1.3.2 *Parking requirements*

13.1.3.2.1 On parking a road vehicle transporting dangerous goods:

a) the parking brake must be fully applied; and
b) if the vehicle is powered by a compression ignition engine, the vehicle must not be parked in gear unless:
    (i) the vehicle is fitted with a device to prevent the engine from starting if the vehicle moves; and
    (ii) the device is engaged.

Where a vehicle may be parked

13.1.3.2.2.1 A road vehicle transporting dangerous goods must not be parked or left standing:

a) in a built-up area with public access; or
b) within 15 metres of any building in which there is or is likely to be a concentration of people (other than a building on premises where the vehicle is loaded or unloaded); or
c) at any other place in which there is or is likely to be a concentration of people; or
d) within 8 metres of another vehicle which is transporting placarded dangerous goods.

13.1.3.2.2.2 Despite 13.1.3.2.2.1, a vehicle may be parked or left standing in circumstances mentioned in 13.1.3.2.2.1 if:

a) it is reasonably necessary to do so:
    i. for the purpose of loading or unloading dangerous goods onto or from the vehicle; or
    ii. because the vehicle has broken down; or
    iii. because of a dangerous situation involving the vehicle; or
    iv. to comply with the requirement of any law; or
    v. for a brief rest or refreshment break; or
    vi. for the normal operation of the vehicle, such as a bitumen spray vehicle; and
b) the vehicle is not parked or left standing for any longer than is necessary and the dangerous goods are kept secure; or
c) the Competent Authority or other local, State or Territory authority responsible for regulating the use or parking of vehicles has approved the place as a place in which vehicles transporting dangerous goods may be parked or left standing.

13.1.3.2.2.3 A vehicle transporting dangerous goods of Division 2.1 or Class 3, 4 or 5 or with a Subsidiary Risk of 2.1, 3, 4 or 5 must not be parked or left standing within 15 metres of a naked flame.

13.1.3.2.2.4 13.1.3.2.2.1(d) does not apply to a road vehicle transporting dangerous goods that is parked or left standing in an area to which there is no public access.

13.1.3.2.2.5 Despite 13.1.3.2.2.1, a vehicle carrying BATTERIES, WET, FILLED WITH ACID, electric storage (UN 2794) of Packing Group III that each have a gross mass of 65kg or less, and that together have a gross mass of 5000 kg or less, may:

a) park in a public place if:
    i. in the case of an enclosed vehicle, the load area is locked; or
    ii. in the case of a tray-sided vehicle, the load is covered, or the vehicle is supervised; and

b) be garaged in a residential area if:
    i. in the case of an enclosed vehicle, the load area is locked; or
    ii. in the case of a tray-sided vehicle, the garage is locked.

13.1.3.2.2.6 However, 13.1.3.2.2.5 only applies if the transport documentation for the load states the number of batteries in the load, and if that number is adjusted after each delivery so that it accurately states the number of batteries in the load at all times.

13.1.3.3 Unloading the vehicle*

Other than for transfer to another vehicle or to another mode of transport, dangerous goods must not be unloaded from a road vehicle unless:

a. the consignee, or a person acting on the consignee's behalf, is present and receives the goods; or
b. if the driver, prime contractor or consignor has agreed with the consignee for the goods to be unloaded into a secure place, the goods are unloaded into that place.

13.1.3.4 Detaching a trailer from a prime mover or combination road vehicle

A trailer containing dangerous goods must not be detached from a prime mover or a combination road vehicle other than:

a) at a vehicle marshalling area, designated by a local, State or Territory authority, where the loading and unloading of goods is permitted; or
b) at a transport depot designed for the loading and unloading of goods; or
c) for the purposes of immediate exchange of trailers between prime movers or combination road vehicles, provided this is carried out off road and security is maintained; or
d) in an emergency requiring the trailer to be detached in the interests of safety; or
e) in the event of the vehicle becoming disabled on a road or street.

13.1.3.5 Operation of burners

13.1.3.5.1 Except as provided in 13.1.3.5.2. where a road tank vehicle is equipped with a burner to heat the load, the burner must not be operated when the vehicle is moving.

13.1.3.5.2 Burners may be operated on moving bitumen tankers if done in accordance with AS 2809.5, however the burner on a spray vehicle must not be operated when the vehicle is spraying bitumen.

13.1.4 ROUTES

13.1.4.1 Routes for road vehicles transporting dangerous goods must be pre-planned whenever possible to the extent practicable, taking into account the factors in this Section*.

13.1.4.2 Routes should be selected to minimise the risk of personal injury or harm to the environment or property during the journey.

13.1.4.3 Routes should wherever practicable avoid heavily populated or environmentally sensitive areas, congested crossings, tunnels, narrow streets, alleys, or sites where there may be, a concentration of people.
13.1.4.4 A road vehicle transporting dangerous goods must observe any requirements or restrictions on the selection of routes or times of travel which have been determined by the Competent Authority.

Safety Equipment for Road Vehicles

Refer to ADG 7.5, Chapter 12.1, page 1167

Every road vehicle transporting a placard load of dangerous goods must be equipped with:

a) fire extinguishers in accordance with the table 12.1 (below); and
b) three double sided reflector signals; and
c) personal protective equipment and safety equipment in accordance with the table 12.2 (next page)

Table 12.1 Minimum Fire Extinguisher Requirements for Road Vehicles Transporting a Placard Load of Dangerous Goods

Load: **All types of dangerous goods** packed in: • Packages, drums, over-packs, segregation devices • Intermediate bulk containers (IBCs) containing non-flammables – any quantity • IBCs containing flammables with up to (and including) 10,000 L total capacity or containing up to (and including) 10,000 kg in total **Required extinguishers:** 1 X 30B dry powder that is to be placed in the cabin (see 12.1.2.5.5), or at the front of any trailer transporting a placard load
Load: **Non-flammable goods** packed in: Pressure drums, tubes, multiple element gas containers (MEGCs), tanks, bulk containers (solids) **Required extinguishers:** 1 X 60B dry powder, or 2 X 30B dry powder, in the load area 1 X 10B dry powder in the cabin (see 12.1.2.5.5)
Load: **Flammable goods** packed in: • Pressure drums, tubes, multiple element gas containers (MEGCs), tanks, bulk containers (solids) • IBCs > 10,000 L total capacity or containing > 10,000kg in total **Required extinguishers:** 2 X 60B dry powder, or 1 X 80B dry powder and 1 X 20B foam, in the load area 1 X 10B dry powder in the cabin (see 12.1.2.5.5)

Note 1: in this table “flammable goods” means dangerous goods of Division 2.1, Class 3 or Class 4, or having a subsidiary risk of 2.1, 3 or 4.

Note 2: In cases of combination vehicles, these directions apply to every separate trailer transporting a placard load.

Type of Fire, Class and Suitability

Pre 1997	Current	Extinguishing Agent	A Wood Paper Plastic	B Flammable & Combustible Liquids	C Flammable Gases	E Electrically Energised Equipment	F Cooking Oils and Fats	Comments	D Metal Fires
		Water	✓	✗	✗	✗	✗	Dangerous if used on flammable liquid, energised electrical equipment and cooking oil/fat fires	Use only special purpose extinguishers and seek expert advice.
		Wet Chemical	✓	✗	✗	✗	✓	Dangerous if used on energised electrical equipment	
		Foam*	✓	✓	✗	✗	LIMITED	Dangerous if used on energised electrical equipment	
		Powder (ABE)	✓	✓	✓	✓	✗	Look carefully at the extinguisher to determine if it is a BE or ABE unit as the capability is different	
		Powder (BE)	✗	✓	✓	✓	✓		
		Carbon Dioxide	LIMITED	LIMITED	✗	✓	✗	Not suitable for outdoor use or smouldering deep seated A Class Fires	
		Vaporising Liquid	✓	LIMITED	LIMITED	✓	✗	Check the characteristics of the specific extinguishing agent. 5 Yearly servicing must be done by ODS &SGG licenced persons.	
		Fire Blanket	LIMITED*	LIMITED	✗	✗	✓	* Fire Blankets may be used as a thermal barrier against radiated heat and to control a fire in clothes being worn by a person.	

LEGEND ✓ = the class or classes in which agent is most effective ✗ = not recommend for these class of fires LIMITED = indicates that the Extinguishant is not the agent of choice for the class of fire, but it may have a limited extinguishing capability

For more information go to: www.fpaa.com.au * Solvents such as alcohol or acetone mix with water and therefore require special foam

PPE and Safety Equipment

Refer to ADG 7.5, Chapter 12.1, page 1167

Table 12.2 Minimum Personal Protective and Safety Equipment on Road Vehicles transporting a Placard Load

Minimum equipment required	Class, Division or Subsidiary Risk of Dangerous Goods in Load											
	2.1 (a)	2.2	2.3	3	4	5.1 (solids)	5.1 (liquids)	5.2	6.1	6.2	8	9
Respiratory protection equipment for escape purposes	No	No	(b)	No	No	No	No	No	(b)	No	(b)	No
Gas tight goggles or full-face shield as appropriate	(c)	(c)	Yes	No	No	No	Yes	Yes	Yes	No	Yes	No
Eye wash kit (d)	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Chemically resistant gloves or gauntlets	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Thermally insulated gloves or gauntlets	Yes	Yes	Yes	No	No	No	No	No	No	No	No	(e)
Chemically resistant suit or coveralls	No	No	No	No	No	No	Yes	Yes	Yes	No	Yes	No
Chemically resistant boots	No	No	No	No	No	No	Yes	Yes	Yes	No	Yes	No
Any electric torch	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Electric torch complying with AS/NZS 60079.11, or other recognized Code	Yes	No	No	Yes	Yes	No	No	Yes	No	No	No	No

a) A vehicle transporting un-odourised LP Gas must additionally be equipped with a gas detector suitable for detection of LP Gas, in accordance with AS 1596
b) The minimum requirement is air supplied short term breathing apparatus suitable for escape purposes, except when, even in an emergency, the dangerous goods will not give rise to harmful vapours, gases or dust. Note that where a driver attends to the loading or transfer of goods, SCBA with a duration of greater than 15 minutes may be required by other (e.g., health and safety) legislation
c) YES – if the goods are in receptacles with a capacity >500 L or the goods are cryogenic liquids
d) NO –otherwise. "Gas tight goggles" means face hugging goggles with increased facial seal.
e) Where an eyewash kit is required, it must be of at least 250 mL capacity, filled and ready for use.
f) YES – if the goods are elevated temperature substances or dry ice, NO – otherwise

NOTE 1: where an item of Personal Protective or Safety Equipment is required based on the primary hazard or subsidiary risk of any item of dangerous goods in the load, that item must be carried, except where thermally insulted gloves or gantlets are required and carried, any requirement for chemically resistant gloves or gauntlets may be ignored

NOTE 2: under other legislation, it may be necessary to carry additional Personal Protective Equipment where it is specified for the purpose on the Safety Data Sheet.

Frequently Asked Questions

How do I… Determine if a substance is dangerous goods, and its classification?

Refer **G39** of the ADG for further detail and additional guidance

1 Look up the chemical name of the substance in the Alphabetical Dangerous Goods List in 3.2.4
2 Determine if the substance meets any of the classification criteria
3 Determine the UN Number and the Proper Shipping Name
4 Look up the UN Number in the Dangerous Goods List in 3.2.3
5 Look up every Special Provision listed in Column 6 for the particular entry
6 If more than one Packing Group is shown for the UN Number, determine the correct Packing Group

How do I… Decide how to pack my dangerous goods?

Refer **G40** of the ADG for further detail and additional guidance.

1 Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.3, in the UN Number sequence
2 Determine if the goods are in Limited Quantities
3 Determine the appropriate Packing Instruction from Column 8 and any special Packing Provision from Column 9
4 Look up that Packing Instruction in Section 4.1.4 and determine the appropriate packing method
5 Determine what general packing provisions are applicable from the opening paragraphs of the Packing Instruction.

How do I… Determine what package labeling and marking is required?

Refer **G41** of the ADG for further detail and additional guidance

1 Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.3, in the UN Number sequence
2 Determine if Inner Package marking and labeling is required

3 Determine if goods are in Limited Quantities
4 Determine what Class or Division labels must be displayed
5 Determine what outer package marking is required
6 Determine the appropriate label and print sizes

How do I… Determine if dangerous goods are incompatible?

Refer **G42** of the ADG for further detail and additional guidance

1 Determine the Class or Division and any Subsidiary Risks for each of the dangerous goods
2 From Chapter 9.1, check the compatibility of each pair of goods *(Remember, that if the primary hazard of one is shown as incompatible with the primary hazard of another, or if the sub risk of one is shown as incompatible with the primary hazard of another, or if the sub risk of one is shown as incompatible with the sub risk of another, then the tow items are incompatible)*
3 Check for any specific incompatibilities in Table 9.2
4 Determine if there are any additional specific compatibility issues identified on the Material Safety Data Sheet (MSDS) of each item where available
5 Using information from the MSDSs, 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

How do I… Pack small quantities of dangerous goods?

Refer **G45** of the ADG for further detail and additional guidance

1 Locate the appropriate entry for the goods in the Dangerous Goods List in 3.2.2, in the UN Number sequence
2 Determine if the goods are in Limited Quantities
3 Pack in accordance with Chapter 3.4
4 Determine if Inner Package marking and labeling is required
5 Determine what marking is to be applied
6 Determine Transport Documentation requirements

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.

For more copies of this Dangerous Goods Drivers Manual please call Keen Bros:
(08) 9923 1088

COMPATIBILITY CHART FOR DANGEROUS GOODS – TRANSPORT BY ROAD OR RAIL

Incompatible Dangerous Goods must be segregated for transport by road and rail as per the Segregation Requirements: Refer ADG 7.5, Part 9.

Check against Risk & Sub Risk

	1 Explosives	2.1 Flammable Gas	2.2 Non-flammable, non toxic gas	2.3 Toxic gas	3 Flammable liquid	4.1 Flammable solid	4.2 Spontaneously combustible	4.3 Dangerous when wet	5.1 Oxydising agent	5.2 Organic peroxide	6.1 Toxic substance	6.2 Infectious substances	7 Radioactive material	8 Corrosive substance	9 Miscellanous substances	Food or Food Empties	Fire-risk substances or Combustible liquids
1 Explosive	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	#1	
2.1 Flammable Gas	#1	✓	Yes but check # 3	✓	Yes but check # 2	✘	✘	✘	✘	✘	✓	✓	✘	✓	✓	✓	✓
2.2 Non-flammable non-toxic gas	#1	Yes but check # 3	✓	Yes but check # 4	✓	✓	✘	✓	✓	✘	✓	✓	✓	✓	✓	✓	✓
2.3 Toxic gas	#1	✓	Yes but check # 4	✓	✘	✓	✘	✓	✘	✘	✓	✓	✓	✓	✓	# 8	✓
3 Flammable liquid	#1	Yes but check # 2	✓	✘	✓	✓	✘	✓	✘	✘	Yes but check # 6	Yes but check # 6	✘	✓	✓	✓	✓
4.1 Flammable solid	#1	✘	✓	✓	✓	✓	✘	✓	✘	✘	✓	✓	✘	✓	✓	✓	✓
4.2 Spontaneously combustible	#1	✘	✘	✘	✘	✘	✓	✓	✘	✘	✓	✓	✘	✓	✓	✓	✓
4.3 Dangerous when wet	#1	✘	✓	✓	✓	✓	✓	✓	✘	✘	✓	✓	✘	✘	✓	✓	✓
5.1 Oxidizing agent	#1	✘	✓	✘	✘	✘	✘	✘	Yes but check # 6	✘	Yes but check # 5	Yes but check # 5	✘	✘	Yes but check # 5	✓	✘
5.2 Organic peroxide	#1	✘	✘	✘	✘	✘	✘	✘	✘	✓	Yes but check # 5	Yes but check # 5	✘	✘	Yes but check # 5	✓	✘
6.1 Toxic	#1	✓	✓	✓	Yes but check # 6	✓	✓	✓	Yes but check # 5	Yes but check # 5	✓	✓	✓	Yes but check # 6	✓	# 8	✓
6.2 Infectious substance	#1	✓	✓	✓	Yes but check # 6	✓	✓	✓	Yes but check # 5	Yes but check # 5	✓	✓	✓	Yes but check # 6	✓	# 8	✓
7 Radioactive	#1	✘	✓	✓	✘	✘	✘	✘	✘	✘	✓	✓	✓	✘	✓	# 8	✓
8 Corrosive	#1	✓	✓	✓	✓	✓	✓	✘	✘	✘	Yes but check # 6	Yes but check # 6	✘	Yes but check # 6	✓	# 8	✓
9 Miscellaneous dangerous goods	#1	✓	✓	✓	✓	✓	✓	✓	Yes but check # 5	Yes but check # 5	✓	✓	✓	✓	✓	✓	✓

Exceptions – special notes

#1	Explosives are incompatible in transport with all other dangerous goods in all quantities except as provided in the Australian Explosives Code or, for Division 1.4S, where 9.1.2.2.2 applies
#2	Division 2.1 and Class 3 are incompatible in transport if both are in tanks or other receptacles with capacity individually exceeding 500 liters
#3	Division 2.1 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500 liters capacity
#4	Division 2.3 is incompatible in transport with gases of Division 2.2 that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500 liters capacity
#5	Class 5 is incompatible with those Class 6 or Class 9 materials that are fire-risk substances
#6	Some specific examples of these classes or divisions are incompatible – refer to the Australian Dangerous Goods Code 7, Table 9.2
#7	See the Code of Practice for the Safe Transport of Radioactive Substances regarding the compatibility of Class 7 with undeveloped photographic film, personnel and mail
#8	Food and food packaging are incompatible with these classes in all quantities, except where 9.1.2.3 applies
NOTE	Concentrated strong acids and concentrated strong alkalis are incompatible

ALSO REFER TO THE ADG 7.5 TABLE 9.2 FOR SPECIFIC EXAMPLES OF INCOMPATIBLE GOODS, Page 1140 of the ADG Code and on the next page