

## **PART 8**

### **Requirements for vehicle crews, equipment, operation and documentation**

## CHAPTER 8.1

### GENERAL REQUIREMENTS CONCERNING TRANSPORT UNITS AND EQUIPMENT ON BOARD

8.1.1 (Reserved, not applicable to ADG 2025)

#### 8.1.2 Documents to be carried on the transport unit

8.1.2.1 In addition to the documents required under other regulations, the following documents shall be carried on the transport unit:

- (a) The transport documents prescribed in 5.4.1, covering all the dangerous goods carried;
- (b) The instructions in writing and emergency information prescribed in 5.4.3;
- (c) (Reserved by ADR);
- (d) Means of identification, which include a photograph, for each member of the vehicle crew, in accordance with 1.10.1.4.

***NOTE:** The transport documents need to accurately reflect the quantity of dangerous goods being transported. When the load changes, the transport documentation needs to be amended to clearly reflect the types and quantities of dangerous goods remaining on the vehicle.*

8.1.2.2 Where the provisions of this code require the following documents to be drawn up, they shall likewise be carried on the transport unit:

- (a) The certificate of approval referred to in 9.1.3 for each transport unit or element thereof;
- (b) The driver's dangerous goods driver licence referred to in 8.2.2;
- (c) A copy of the competent authority approval, when required in 5.4.1.2.1 (c) or (d) or 5.4.1.2.3.3.
- (d) A copy of any competent authority approvals, exemptions or determinations that are required to be carried during transport.

8.1.2.3 Where the vehicle is fitted with an emergency information holder prescribed in 8.1.6, the documents prescribed in 5.4.3 (a) and (b) shall be kept in the emergency information holder.

In all other cases, the documents prescribed in 5.4.3 (a) and (b) shall be kept readily available in a prominent location in the cabin.

The emergency information holder shall not be used to carry any items other than those listed in 8.1.2.1 or 8.1.2.2.

8.1.2.4 (Deleted in ADR)

#### 8.1.3 Placarding and marking

Transport units carrying dangerous goods shall be placarded and marked in conformity with Chapter 5.3.

#### 8.1.4 Fire-fighting equipment

8.1.4.1 The following are the minimum provisions for fire-fighting equipment for fire classes<sup>1</sup> A, B and C that apply to transport units carrying dangerous goods, except for those referred to in 8.1.4.2.

The capacity requirements provided are for dry chemical powder fire extinguishing agent, unless substituted in accordance with 8.1.4.3.

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<sup>1</sup> Flammability classes are defined in AS 1850.

**NOTE 1:** 8.1.4.3 permits substitution of extinguishing agent in the load area. Foam or water may be a more appropriate choice of extinguishing agent where the expected use of the extinguisher is to combat a wheel or tyre fire.

**NOTE 2:** A 9L foam or water extinguisher is considered equivalent to a 9 kg dry chemical powder extinguisher.

- 8.1.4.1.1 If the maximum permissible mass of the transport unit is no more than 4.5 tonnes, the load area of the vehicle shall be equipped with at least one fire extinguisher with a capacity of no less than 2 kg.
- 8.1.4.1.2 If the maximum permissible mass of the transport unit is greater than 4.5 tonnes:
- (a) If the vehicle is only transporting dangerous goods in packages only, the load area of each vehicle shall be equipped with at least:
    - (i) One fire extinguisher with a capacity of no less than 4.5 kg.
  - (b) If the vehicle is transporting dangerous goods in tanks or bulk containers, the load area of each vehicle shall be equipped with at least:
    - (i) Two fire extinguishers, with a total capacity of no less than 9 kg; and
    - (ii) One fire extinguisher shall have a capacity of no less than 4.5 kg.
- 8.1.4.1.3 In addition to the extinguishers referred to in 8.1.4.1.1 and 8.1.4.1.2, the vehicle shall carry at least one fire extinguisher suitable for fighting an engine or cab fire. The fire extinguisher shall have a capacity of no less than 2 kg.
- 8.1.4.3 *Selection of fire extinguishers*
- 8.1.4.3.1 The portable fire extinguishers shall be suitable for use on a vehicle and shall comply with the relevant requirements of AS/NZS 1841 or 1850.
- 8.1.4.3.2 The portable fire extinguishers referred to in 8.1.4.1.1 and 8.1.4.1.2 may be partially or wholly substituted with an equivalent capacity of foam or water fire extinguishers.
- 8.1.4.3.3 The portable fire extinguishers referred to in 8.1.4.1.1 and 8.1.4.1.2 may be replaced with a foam or water fire-fighting system designed for the vehicle and the load using compressed air, electric pumps or other means. The capacity shall be appropriate for the vehicle, but in no case shall be less than the capacity in 8.1.4.1.1 or 8.1.4.1.2.
- This fire-fighting system shall be operational even when the engine of the vehicle is turned off and shall be suitable for the types of fire scenarios likely to be encountered with the aim of preventing the spread of fire to the load.
- NOTE:** A foam or water fire-fighting system in accordance with 8.1.4.3.3 is mandatory for AN vehicles.
- 8.1.4.3.4 If the vehicle is equipped with a fixed fire suppression system, whether automatic or easily brought into action for fighting a fire in the engine, the portable extinguisher referred to in 8.1.4.1.3 need not be suitable for fighting a fire in the engine. The extinguishing agents shall be such that they are not liable to release toxic gases into the driver's cab or under the influence of the heat of the fire.
- 8.1.4.4 The portable fire extinguishers conforming to the provisions of 8.1.4.1 or 8.1.4.2 shall be fitted with a seal or another measure which allows verifying that they have not been used.
- The fire extinguishers shall be subjected to inspections and maintenance in accordance with AS/NZS 1851.
- 8.1.4.5 The fire extinguishers shall be securely installed on the transport units in a way that they are easily accessible to the vehicle crew, such as by fitting in a quick release bracket. The installation shall be carried out in such a way that the fire extinguishers

shall be protected against effects of the weather so that their operational safety is not affected. During carriage, the date required in 8.1.4.4 shall not have expired, and a means of verifying this shall be provided.

**NOTE:** AS/NZS 1851 requires portable extinguishers to be inspected every six months.

8.1.4.6 Where two or more fire extinguishers in the load area are fitted in accordance with 8.1.4.1.1 or 8.1.4.1.2, one should be located on the left (near, or passenger) side towards the rear of the vehicle and, wherever practicable, another should be mounted on the right (off, or driver) side towards the front of the vehicle.

### 8.1.5 Miscellaneous equipment and equipment for personal protection

**NOTE 1:** The equipment in this section are the minimum requirements for the transport of dangerous goods. Consideration shall be given to the properties of the dangerous goods, and the nature of the transport operation when selecting appropriate equipment.

**NOTE 2:** Where the vehicle crew undertake other tasks involving dangerous goods (such as filling or emptying tanks, bulk containers or packages), additional personal protective equipment may be required to meet the requirements of other safety legislation. If the equipment under this section also fulfils that purpose, it shall meet these requirements throughout transport.

8.1.5.1 Each transport unit carrying dangerous goods shall be provided with items of equipment for general and personal protection in accordance with 8.1.5.2. The items of equipment shall be selected in accordance with the danger label number of the goods loaded. The label numbers can be identified through the transport document.

8.1.5.2 The following equipment shall be carried on board the transport unit:

- For each trailer not fitted with brakes, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- Three portable warning triangles;
- Eye rinsing liquid, no less than 250 mL (not required when only transporting goods with danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3); and

for each member of the vehicle crew

- A warning vest, or equivalent high-visibility clothing (e.g. as described in AS/NZS 4602.1);
- A torch conforming to the provisions of 8.3.4;
- A pair of protective gloves;
- Eye protection (e.g. protective goggles); and
- Foot protection (e.g. protective footwear).

8.1.5.3 Additional equipment required when solids and liquids are being transported:

- A shovel;
- A drain seal;
- A collecting container.

8.1.5.4 Escape breathing apparatus for each member of the vehicle crew shall be carried on the transport unit conforming to the following provisions:

When dangerous goods with special provision S50A listed in column (19) are transported in tanks,:

- a compressed air or compressed oxygen self-contained breathing apparatus, or chemical oxygen generating self-contained self-rescuer. At a minimum, this

shall be certified to comply with AS/NZS 1716 and provide breathable air for not less than 15 minutes.

**NOTE:** This code applies special provision S50A is applied to goods of division 2.3, and those assigned portable tank special provision TP13 in the UN Model Regulations.

When any other dangerous goods with danger label numbers 2.3, 6.1 or 8 are being transported:

- An emergency escape mask. At a minimum, this shall include a combined gas/dust filter of at least the A2B2E2K2-P2 type.

**NOTE 2:** The apparatus required by special provision S50A is also considered to meet this requirement.

#### **8.1.5.5 Requirements for maintenance and location of equipment**

**NOTE:** Equipment for use in an emergency shall be readily able to be deployed without additional steps. For example, eyewash bottles filled, and the torch must work when switched on. Minor steps such as removing a security seal are acceptable, provided they do not hinder use in an emergency.

8.1.5.5.1 All equipment provided in accordance with this section shall be:

- (a) clean;
- (b) suitable for purpose; and
- (c) maintained and in sound operating condition, ready for use.

8.1.5.5.2 Respiratory protection equipment required to be carried for escape purposes shall be carried securely and in an accessible position in the cabin of the vehicle.

8.1.5.5.3 Other personal protective equipment and safety equipment provided for occupants of a road vehicle transporting dangerous goods shall be carried securely and in a readily accessible position in the vehicle.

#### **8.1.6 Emergency information holder**

8.1.6.1 An emergency information holder shall be securely placed on a road vehicle in one of the following locations:

- (a) on the inside of the driver's door of the cabin; or
- (b) immediately adjacent to the driver's door of the cabin; or
- (c) 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.

The location permitted in (b) shall be used only if the location in (a) is not possible, and the location in (c) may be used only if the locations in (a) and (b) are not possible.

Any emergency information holder that is located other than in (a) shall be visible and readily accessible.

8.1.6.2 The emergency information shall be of a size and shape suitable for carrying the transport documents, instructions-in-writing and emergency information.

The emergency information holder shall be marked with the words "emergency procedure guides" or "emergency information" in red letters at least 10 millimetres high on a white background.

If the emergency information holder is not located as specified in 8.1.6.1(a), then a notice shall be affixed to the inside of the driver's door that clearly identifies the location of the emergency information holder.

## 8.1.7 Equipment for the transfer of dangerous goods

### 8.1.7.1 Hoses and hose assemblies for the transfer of dangerous goods

8.1.7.1.1 Hoses and hose assemblies used for transfer of dangerous goods shall be fit for purpose. A hose that is not safe to use due to:

- (a) physical damage;
- (b) excessive wear;
- (c) excessive flow restriction; or
- (d) another reason that makes it unsafe

shall not be used for the transfer of dangerous goods.

8.1.7.1.2 Except where a standard referenced in 8.1.7.3 applies, hose assemblies used to transfer dangerous goods shall have a maximum design pressure of not less than 1.5 times the maximum allowable working pressure of the transfer system in which the hose is used.

8.1.7.1.3 List of referenced standards

Reference	Title of document	Applicable dangerous goods
(1)	(2)	(3)
AS 1869.0:2023	Hose and hose assemblies for liquefied petroleum gases (LP Gas), natural gas and town gas, Part 0: General requirements	
AS 1596:2014 + Amd1	The storage and handling of LP Gas	Liquefied hydrocarbon gases, including UN 1011, 1012, 1075, 1077, 1978.
AS/NZS 2022:2003 + Amd1	Anhydrous ammonia – Storage and handling	UN 1005
AS 2683:2000	Hose and hose assemblies for distribution of petroleum and petroleum products (excepting LPG)	Liquid petroleum products of class 3.
AS 2594:1983	Hose and hose assemblies for liquid chemicals	Liquid dangerous goods, other than of class 2, or liquid petroleum products of class 3.

8.1.7.1.4 Hoses shall be subject to an inspection and testing regime according to the standards referenced in 8.1.7.1.3, but no less frequently than the requirements in 8.1.7.2

### 8.1.7.2 Hose inspection and testing

8.1.7.2.1 *Visual inspection*

A hose assembly shall be visually inspected for damage over its entire length at intervals of not more than one month.

8.1.7.2.2 *Hydrostatic pressure testing*

8.1.7.2.2.1 A hose assembly shall undergo a hydrostatic test:

- (a) prior to entry into service; and
- (b) no later than 12 months after the previous hydrostatic test.

8.1.7.2.2.2 The hydrostatic test shall be carried out at no less than the maximum allowable working pressure of the hose assembly.

8.1.7.2.3 *Electrical continuity testing*

- 8.1.7.2.3.1 A hose assembly used to transfer dangerous goods of classes 3 or 4 (including subsidiary hazards) shall be tested for electrical continuity:
- (a) prior to entry into service; and
  - (b) no later than 6 months after the previous electrical continuity test.
- 8.1.7.2.3.2 The resistance of the hose assembly shall comply with the resistance values specified for electrical properties in AS 2683 for the kind<sup>2</sup> of hose assembly being tested.
- 8.1.7.2.3.3 If a hose assembly consists of two or more Kind 1 hose assemblies coupled together, it shall be constructed, assembled and maintained, so that the resistance between the end couplings does not exceed 10 Ω.
- 8.1.7.2.3.4 If a hose assembly consists of two or more hose assemblies which are not of Kind 1, it shall be constructed, assembled and maintained so that the resistance between the couplings does not exceed the resistance values for electrical properties in AS 2683 for the relevant kind of hose assembly.

### **8.1.7.3 Pumps for the transfer of dangerous goods**

- 8.1.7.3.1 A pump used for the transfer of dangerous goods of class 3 shall be suitable for the dangerous goods being transferred, and shall meet either of the following provisions:
- (a) If fitted to the vehicle, it shall meet all the relevant pump design and use requirements of AS 2809.
  - (b) If not fitted to the vehicle, it shall conform to all relevant requirements of AS 1940 for the hazardous area in which it is operated.

**NOTE:** AS 1940 provides extensive requirements for the design and operation of pumps and other equipment used for the transfer of flammable liquids.

- 8.1.7.3.2 A pump used for the transfer of dangerous goods other than class 3 shall be suitable for the goods being transferred, including the physical and chemical properties of the goods, and the conditions of transfer.
- 8.1.7.3.3 Pumps shall be:
- (a) Safe to use; and
  - (b) Fit for purpose.
- 8.1.7.3.4 Pumps shall be subject to an appropriate inspection and maintenance program.

### **8.1.7.4 Other equipment for the transfer of dangerous goods**

- 8.1.7.4.1 All other equipment used to transfer dangerous goods to or from a means of containment that is on a vehicle shall be:
- (c) Suitable for the dangerous goods to be transferred;
  - (d) Safe to use; and
  - (e) Fit for purpose.

8.1.7.4.2 Equipment shall be subject to an appropriate inspection and maintenance program.

### **8.1.7.5 Record keeping**

- 8.1.7.5.1 All equipment used for the transfer of dangerous goods shall be marked in a way that allows it to be uniquely identified.
- 8.1.7.5.2 An accurate record shall be kept by the equipment owner for the life of the equipment of the following:

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<sup>2</sup> Hose assembly kinds are defined in AS 2683.

- (a) the date on which any test or inspection required to be carried out was completed;
- (b) the nature of the test carried out;
- (c) the date on which maintenance work was carried out; and
- (d) the nature of the maintenance work.

DRAFT FOR COMMENT

## CHAPTER 8.2

### REQUIREMENTS CONCERNING THE TRAINING OF THE VEHICLE CREW

**NOTE:** The general training requirements in 8.2.1 apply to all dangerous goods drivers. The training requirements in 8.2.2 apply additionally to drivers who require formal training to obtain a dangerous goods driver licence.

#### 8.2.1 Scope and general requirements concerning the training of drivers

8.2.1.1 A driver of a vehicle transporting dangerous goods subject to this Code shall be trained in accordance with the requirements of this chapter.

8.2.1.2 Training may take one or more of the following forms:

- (a) Formal training delivered by a registered training organisation (RTO);
- (b) Other training in a formal setting;
- (c) Informal training, on-the-job-training, or instruction and supervision.

The level of detail, and the material covered in this training depends on the transport operation. Regardless of the form or combination of training used, the training shall provide a driver with the skills and knowledge required to undertake their tasks safely and in accordance with this Code.

A record of the training provided, regardless of form, shall be kept. This shall include information on who assessed the driver as competent.

**NOTE:** The risk of incidents rises significantly whenever a significant change in operations occurs. When such changes occur, for example a new type of vehicle or delivery to a new site, determine whether supplemental training is required.

8.2.1.3 Drivers shall be provided with training on the following subjects:

- (a) Structure and navigation of this Code
- (b) General requirements governing the carriage of dangerous goods;
- (c) Main types of hazards;
- (d) Information on environmental protection;
- (e) Preventive and safety measures appropriate to the various types of hazards;
- (f) What to do after an accident (first aid, road safety, basic knowledge about the use of protective equipment, instructions in writing, etc.);
- (g) Marking, labelling, placarding and emergency information panels;
- (h) What a driver should and should not do during the carriage of dangerous goods;
- (i) Purpose and the method of operation of technical equipment on vehicles;
- (j) Segregation requirements on vehicles;
- (k) Precautions to be taken during loading and unloading of dangerous goods;
- (l) General information concerning civil liability;
- (m) Information on multimodal transport operations;
- (n) Handling and stowage of packages;
- (o) Traffic and route restrictions, including tunnels.

**NOTE:** Consideration should be given to using practical training for topics that will benefit from it. Examples include the use of fire extinguishers, safety and personal protective equipment.

8.2.1.4 Drivers of vehicles transporting dangerous goods in tanks or bulk containers shall additionally be provided with training on the following subjects:

- (a) Behaviour of vehicles on the road, including movements of the load;
- (b) Specific requirements of vehicles used by the carrier;
- (c) General theoretical knowledge of the various and different filling and discharge systems;
- (d) Specific additional provisions applicable to the use of those vehicles (certificates of approval, approval marking, placarding and emergency information panels, etc.).

- 8.2.1.5 A driver who is required to hold a dangerous goods driver licence shall additionally undertake training and be assessed as competent in accordance with 8.2.2.
- 8.2.1.6 A driver who is expected to perform tasks other than driving a dangerous goods vehicle shall be provided with training in accordance with the requirements of Chapter 1.3.
- 8.2.1.7 A driver of a vehicle fitted with specialist equipment shall be trained to use the equipment if they are expected to use it.

**NOTE:** For example, where a vehicle is fitted with a fixed firefighting system, the driver needs to be provided with training in the system, including practical training as appropriate.

## **8.2.2 Special requirements concerning the training of drivers required to hold a dangerous goods driver licence**

**NOTE 1:** The mandatory training required for a dangerous goods driver licence does not necessarily fulfil all training requirements outlined in 8.2.1. Carriers need to ensure that a driver is also provided with task-specific and company-specific training to ensure they are properly prepared to perform their tasks safely and in accordance with this Code.

**NOTE 2:** This section addresses the training as it relates to dangerous goods knowledge and related matters. Other vocational education and training requirements apply to the training that are outside the scope of this code.

- 8.2.2.1 The necessary knowledge and skills shall be imparted by training using theoretical courses and/or practical exercises. The knowledge and competence shall be tested in an examination, delivered by an RTO meeting the requirements of this section. The student shall be issued a statement of attainment for the relevant unit of competency.
- 8.2.2.2 The RTO shall engage an approved assessor to deliver the course on its behalf. The RTO shall ensure that an approved assessor it engages has a good knowledge of, and takes into consideration, recent developments in regulations and training requirements relating to the carriage of dangerous goods.

### **8.2.2.3 Structure of training**

- 8.2.2.3.1 Training shall be given in the form of a formal training course. Any further training, conducted on the same occasion and by the same training body, shall be additional to the training course.
- 8.2.2.3.2 Elements to be covered by the training course shall be as defined in the relevant unit of competency.
- 8.2.2.3.6 The training course may be broken into individual training units for presentation.
- 8.2.2.3.7 The training may include practical exercises in connection with the theoretical training.
- 8.2.2.3.8 The training shall include competency assessment using the Mandatory Assessment Instrument approved by the competent authority.

8.2.2.3.9 The training shall only be undertaken provided the student demonstrates a level of use and understanding of the English language and mathematics to ensure that they are readily able to undertake tasks that are required of a driver when transporting and handling dangerous goods.

**8.2.2.4 Training programme**

8.2.2.4.1 The duration of the training course shall be no less than 16 hours over no less than 2 days.

8.2.2.4.2 The RTO shall develop and maintain:

- (a) A training and assessment strategy for the course
- (b) Up to date learning materials to support delivery of the course

8.2.2.4.3 The training and assessment strategy shall:

- (a) accurately describe in sufficient detail, the RTO's approach to training, delivery and assessment;
- (b) meet the requirements of the unit of competency and the competent authority;
- (c) ensure the following are addressed:
  - (i) the requirements set out in this chapter;
  - (ii) any requirements set out in the terms and conditions attached to the Mandatory Assessment Instrument;
  - (iii) any requirements set out by the competent authority where the course is conducted;

8.2.2.4.4 The learning materials shall consist of an appropriate range of the following:

- (a) presentations
- (b) student handbooks, guides or workbooks
- (c) exercises, case studies, or simulations
- (d) sample materials, tools, equipment or personal protective equipment;
- (e) applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

8.2.2.4.5 The Approved Assessor shall:

- (a) be assessed by the RTO as competent and meet the requirements of this Code, the Mandatory Assessment Instrument and the competent authority;
- (b) be formally engaged by the RTO to conduct the training and assessment for this training;
- (c) have successfully completed the Mandatory Assessment Instrument and have been issued with a statement of attainment for the unit of competency;
- (d) be certified in training and assessment; and
- (e) have 5 years relevant dangerous goods industry experience or be otherwise recognised by the competent authority as having appropriate experience.

8.2.2.4.6 The RTO shall ensure students have access to:

- (a) the current edition of this Code
- (b) legislation in the jurisdiction where the training is delivered;
- (c) any supporting information referenced in the code or legislation that is relevant to the training.

8.2.2.4.7 Recognised prior learning is not accepted for the training course.

8.2.2.4.8 The competency assessment shall consist of:

- (a) The Mandatory Assessment Instrument; and
- (b) Any additional competency assessment the RTO determines to be necessary

- 8.2.2.4.9 Prior to commencing each course, the approved assessor shall:
- (a) Confirm the date, time, and location of the course and assessment with the student and any relevant stake holders.
  - (b) Sight and record photo ID (i.e. valid driver licence) front and back of the ID for each student.

**8.2.2.5 *Refresher training programme***

A refresher training course shall only be delivered in the form of the full training course.

**8.2.2.6 *Approval of RTOs***

- 8.2.2.6.1 The competent authority may approve an RTO to deliver the course for the purpose of issuing a dangerous goods driver licence, provided the RTO:

- (a) Holds the scope of registration for the relevant unit of competency;
- (b) Can provide evidence of current RTO status;
- (c) Is not the subject of an RTO non-compliance order;
- (d) Meets the requirements of the competent authority in the jurisdiction;
- (e) Uses the Mandatory Assessment Instrument to assess a student as competent; and
- (f) Keeps the Mandatory Assessment Instrument and model answers secure.

- 8.2.2.6.2 The following details shall also be provided to the competent authority:

- (a) Name and contact information for the RTO;
- (b) Name and contact information for each Approved Assessor for the course delivery

- 8.2.2.6.3 An RTO shall apply for approval in writing, providing the training and assessment strategy, and learning materials for review and approval by the competent authority.

- 8.2.2.6.4 The RTO shall inform the competent authority if any of the matters detailed in 8.2.2.6.1 or 8.2.2.6.3 change or are no longer met.

- 8.2.2.6.5 Where an RTO is already approved in another jurisdiction, the competent authority may approve an RTO on a mutual recognition basis.

In giving this approval, the competent authority may require additional information or jurisdiction specific amendments to be made to the training.

- 8.2.2.6.6 The competent authority may monitor or audit any aspects of the training process. This may include:

- (a) Access to documents and records relating to the course and examinations;
- (b) Reasonable access to assessment sites; and
- (c) Retesting any student to assess competency.

- 8.2.2.6.7 A competent authority may engage other persons to undertake monitoring or auditing on its behalf.

**8.2.2.7 *Examinations (the Mandatory Assessment Instrument)***

**8.2.2.7.1 *Competence assessment***

Assessment using the Mandatory Assessment Instrument shall only be undertaken as an individual unsupported examination, other than materials permitted by this section.

The approved assessor shall use suitable scenarios and where possible, simulated workplace operational situations that replicate workplace conditions.

A student shall not be assessed as competent unless a 100 % mark is attained on the Mandatory Assessment Instrument.

A student may only be provided with a second attempt if they attain 80% on their first attempt, in accordance with the retesting provisions in 8.2.2.7.2.

Flexibility in assessment strategies is permitted, provided the training is not curtailed or diminished and the integrity of the assessment is not compromised. In all cases, the approved assessor shall be able to demonstrate that the integrity of the assessment has been maintained.

**NOTE:** For example, an assessment strategy may allow for the assessment to be conducted in stages throughout the course.

#### 8.2.2.7.2

##### *Retesting*

If a student has attained a mark of 80% or more in their first attempt, the approved assessor may provide gap training for the responses which were marked as incorrect.

The student may then undertake one further unsupported attempt on that day.

If the student does not attain 100% on the second unsupported attempt, the student will be required to undertake a further assessment on another day.

If after three unsupported attempts the student has still not attained a mark of 100%, they shall only sit the Mandatory Assessment Instrument as part of a full course at a later date.

Where retesting and gap training has occurred, the approved assessor shall record the process undertaken and attach the record to the assessment along with the record of the student's further attempts.

#### 8.2.2.7.3

##### *Resources for assessment*

Resources for assessment include:

- (a) a range of relevant exercises, case studies and/or simulations
- (b) applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- (c) the Mandatory Assessment Instrument (Student Copy)
- (d) relevant materials, tools, equipment and personal protective equipment currently used in industry

#### 8.2.2.7.4

##### *Assessment process*

##### 8.2.2.7.4.1

Each student shall complete the assessment as an individual, "closed book" assessment, apart from the following materials:

- (a) current jurisdictional DG transport legislation;
- (b) This Code;
- (c) Emergency Action Code (Hazchem codes) handouts; and
- (d) A student's own individual notes.

**NOTE:** Students shall individually have access to the materials detailed above.

Student workbooks or student learner guides are not permitted to be utilised whilst undertaking the Mandatory Assessment Instrument.

No model answers are to be provided to the students at any stage.

##### 8.2.2.7.4.2

Assessors shall:

- (a) Conduct assessments face-to-face;
- (b) Clearly explain the assessment requirements to the students;

- (c) Check students have the necessary tools, equipment, and reference materials to complete the assessment;
- (d) Advise each student of the expected timeframe to complete this assessment; and
- (e) Use the process outlined in Instructions to Assessor to mark the assessment.

**8.2.2.8 Statement of Attainment (Certificate of driver's training)**

8.2.2.8.1 An approved RTO may only issue a statement of attainment based on the approved course provided the assessment was conducted and the student assessed as competent in accordance with the requirements of this Chapter.

8.2.2.8.2 In addition to meeting the other requirements for a statement of attainment, the RTO shall include the following on the statement of attainment:

- (a) Reference code issued by the competent authority (if issued to the RTO);
- (b) Dates of training and assessment;
- (c) Location of training and assessment;
- (d) The approved assessor's full name; and
- (e) Include the following details on the statement:

*This course has met the requirements of the Competent Authority for a Dangerous Good Driver Licence.*

*Class of Dangerous Goods 2,3,4,5,6,8,9.*

*Note: This is not a Dangerous Goods Drivers Licence.*

**NOTE:** *the classes of dangerous goods listed may vary depending on the jurisdiction's requirements.*

**CHAPTER 8.3**  
**MISCELLANEOUS REQUIREMENTS TO BE COMPLIED**  
**WITH BY THE VEHICLE CREW**

**8.3.1 Passengers**

Apart from members of the vehicle crew, no passengers may be carried in transport units carrying dangerous goods.

This provision does not apply to an authorised officer, police officer or officer of an emergency service or a person authorised to ride in the vehicle by such a person.

*NOTE: A person accompanying a driver for safety, security, training or operational reasons is defined as a member of a vehicle crew in 1.2.1.*

**8.3.2 Use of fire-fighting appliances**

Members of the vehicle crew shall know how to use the fire-fighting appliances.

**8.3.3 Prohibition on opening packages**

A driver or a driver's assistant may not open a package containing dangerous goods.

This provision does not apply in circumstances where opening packages forms part of a driver's other duties, and appropriate instruction and training is provided.

**8.3.4 Torch**

The torch used shall be suitable for use in a zone 1 hazardous area as defined in AS/NZS 60079.10.1.

**8.3.5 Prohibition on smoking**

Smoking shall be prohibited during handling operations in the vicinity of vehicles and inside the vehicles. This prohibition of smoking is also applicable to the use of electronic cigarettes and similar devices.

**8.3.6 Running the engine during loading or unloading**

Except where the engine has to be used to drive the pumps or other appliances for loading or unloading the vehicle and is otherwise permitted, the engine shall be shut off during loading and unloading operations.

**8.3.7 Use of the parking brakes**

No vehicles carrying dangerous goods may be parked without the parking brakes being applied. Trailers without braking devices shall be restrained from moving.

If the vehicle is powered by a compression ignition engine, the vehicle shall 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.

**8.3.8 Use of cables for electronic braking systems**

In the case of a transport unit equipped with an anti-lock or other electronic braking system, consisting of a motor vehicle and one or more trailers with a maximum mass exceeding 4.5 tonnes, the connections referred to in sub-section 9.2.2.8.5 shall connect the towing vehicle and the trailer at all times during carriage.

**8.3.9 Breakdowns**

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

- (a) if the battery has not been disconnected to prevent danger:
  - (i) turn the hazard lights on and leaving them on while the vehicle is stopped; or
  - (ii) if there are no flashing hazard lights on the vehicle, turning the parking lights on and leaving them on while the vehicle is stopped; and
- (b) place the portable warning triangles in accordance with the positioning requirements of the Road Rules in the jurisdiction where the breakdown occurs.

**NOTE 1:** *This requirement to place portable warning triangles applies regardless of any provisions in the road rules relating to vehicle GVM.*

**NOTE 2:** *Rule 227 of the model Australian Road Rules provides the following positioning requirements for portable warning triangles:*

- (a) *if the speed limit for the road is 80 kilometres per hour or more:*
  - (i) *1 triangle at least 200 metres, but not over 250 metres, behind the vehicle; and*
  - (ii) *if the vehicle is on a one-way or divided road, 1 triangle between the triangle required by paragraph (i) and the vehicle; and*
  - (iii) *if the vehicle is not on a one-way road or divided road, 1 triangle at least 200 metres, but not over 250 metres, in front of the vehicle or fallen load; and*
  - (iv) *1 triangle at the side of the vehicle closer to traffic;*
- (b) *if the speed limit for the road is less than 80 kilometres per hour:*
  - (i) *1 triangle at least 50 metres, but not over 150 metres, behind the vehicle; and*
  - (ii) *if the vehicle is on a one-way or divided road, 1 triangle between the triangle required by paragraph (i) and the vehicle; and*
  - (iii) *if the vehicle is not on a one-way road or divided road, 1 triangle at least 50 metres, but not over 150 metres, in front of the vehicle or fallen load; and*
  - (iv) *1 triangle at the side of the vehicle closer to traffic.*

### 8.3.10

#### **Detaching a trailer**

A trailer containing dangerous goods, other than a small load according to 1.1.3.6, shall not be detached from a prime mover or a combination road vehicle, except in the following situations:

- (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.

### 8.3.11

#### **Operation of systems to heat dangerous goods**

Where a vehicle is equipped with a burner to heat the load, the burner shall not be operated when the vehicle is moving.

A burner shall not be used to heat the load during the transfer of dangerous goods.

Where a system other than a burner to heat the load while in motion, or during transfer is provided, it shall only be operated in a safe manner, in accordance with instructions provided to the vehicle crew.

DRAFT FOR COMMENT

## CHAPTER 8.4

### REQUIREMENTS CONCERNING THE SUPERVISION OF VEHICLES

#### 8.4.1 Definitions

8.4.1.1 A vehicle is considered *supervised* when a member of the vehicle crew, or another suitably instructed and trained person, is readily available to attend to any issues involving the vehicle.

**NOTE:** A vehicle is not considered *unsupervised* if a driver secures and leaves the vehicle for no longer than is necessary, to access nearby facilities for required fatigue, rest, refreshment or service purposes, but remains readily available to attend to the vehicle.

8.4.1.2 A vehicle is considered to be *in an isolated position* when it is separated from:

- (a) Buildings and places in which there is or is likely to be a concentration of people; and
- (b) Other vehicles transporting dangerous goods displaying placards.

#### 8.4.2 Supervision of vehicles transporting dangerous goods

Vehicles carrying dangerous goods, other than a small load, shall be supervised or alternatively may be parked, unsupervised, in a secure depot or secure factory premises.

If such facilities are not available, the vehicle, after having been properly secured, may be parked in an isolated position meeting the requirements of (a), (b) or (c) below:

- (a) A vehicle park supervised by an attendant who has been notified of the nature of the load and the whereabouts of the driver;
- (b) A public or private vehicle park where the vehicle is not likely to suffer damage from other vehicles; or
- (c) A suitable open space separated from the public highway and from dwellings, where the public does not normally pass or assemble.

The parking facilities permitted in (b) shall be used only if those described in (a) are not available, and those described in (c) may be used only if facilities described in (a) and (b) are not available.

#### 8.4.3 Supervision of MPUs

Loaded MPUs shall be supervised or alternatively may be parked, unsupervised, in a secure depot or secure factory premises. Empty uncleaned MPUs are exempted from this requirement.

## CHAPTER 8.5

### ADDITIONAL REQUIREMENTS RELATING TO PARTICULAR CLASSES OR SUBSTANCES

In addition to the requirements of Chapters 8.1 to 8.4, when reference is made to them in Column (19) of Table A of Chapter 3.2, the following requirements shall apply to the carriage of the substances or articles concerned. In the event of conflict with the requirements of Chapters 8.1 to 8.4, the requirements of this Chapter shall take precedence.

**S1: Requirements concerning the carriage of explosive substances and articles (Class 1)**

**(1) *Special training of drivers***

If, according to other regulations applicable in the jurisdiction, a driver has followed equivalent training under a different regime or for a different purpose, covering the subjects defined in 8.2.2, the specialization training course may be totally or partially dispensed with.

**(2) *Approved official***

If the jurisdictional regulations so provide, the competent authority may require an approved official to be carried in the vehicle at the carrier's expense.

**(3) *Prohibition of smoking, fire and naked flame***

Smoking, the use of fire or of naked flames shall be prohibited on vehicles carrying substances and articles of Class 1, in their vicinity and during the loading and unloading of these substances and articles. This prohibition of smoking is also applicable to the use of electronic cigarettes and similar devices.

**(4) *Places of loading and unloading***

- (a) Loading or unloading of substances and articles of Class 1 shall not take place in a public place in a built-up area without special permission from the competent authorities;
- (b) Loading or unloading of substances and articles of Class 1 in a public space elsewhere than in a built-up area without prior notice thereof having been given to the competent authorities shall be prohibited, unless operations are urgently necessary for reasons of safety;
- (c) If, for any reason, handling operations have to be carried out in a public place, then substances and articles of different kinds shall be separated according to the labels;
- (d) When vehicles carrying substances and articles of Class 1 are obliged to stop for loading or unloading operations in a public place, a distance of at least 50 m shall be maintained between the stationary vehicles. This distance shall not apply to vehicles belonging to the same transport unit.

**(5) *Convoys***

- (a) When vehicles carrying substances and articles of Class 1 travel in convoy, a distance of not less than 50 m shall be maintained between each transport unit and the next;
- (b) The competent authority may lay down rules for the order or composition of convoys.

**(6) Supervision of vehicles**

The requirements of Chapter 8.4 shall be applicable only when substances and articles of Class 1 having a total net mass of explosive substance above the limits set below are carried in a vehicle:

Division 1.1:	0 kg
Division 1.2:	0 kg
Division 1.3, compatibility group C:	0 kg
Division 1.3, other than compatibility group C:	50 kg
Division 1.4, other than those listed below:	50 kg
Division 1.5:	0 kg
Division 1.6:	50 kg
Substances and articles of Division 1.4 belonging to UN numbers 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456, 0500, 0512 and 0513:	0 kg

For mixed loads the lowest limit applicable to any of the substances or articles carried shall be used for the load as a whole.

In addition, these substances and articles, when subject to the provisions in 1.10.3, shall be supervised in accordance with the security plan in 1.10.3.2 at all times to prevent any malicious act and to alert the driver and the competent authorities in the event of loss or fire.

Empty uncleaned packagings are exempted.

**(7) Locking of vehicles**

Doors and rigid covers in the load compartments of explosives vehicles and all openings in the load compartments of explosives vehicles that are transporting high risk loads carrying substances and articles of Class 1 shall be locked during transport, except for the periods of loading and unloading.

**S2: Additional requirements concerning the carriage of flammable liquids or gases**

**(1) Portable lighting apparatus**

The load compartment of closed vehicles carrying liquids having a flash-point of not more than 60 °C or flammable substances or articles of Class 2, shall not be entered by persons carrying a torch or other portable lighting apparatus other than those so designed and constructed that they cannot ignite any flammable vapours or gases which may have penetrated into the interior of the vehicle.

**(2) Operation of combustion heaters during loading or unloading**

The operation of combustion heaters of vehicles of type FL (see Part 9) is forbidden during loading and unloading and at loading sites.

**(3) Precautions against electrostatic charges**

In the case of vehicles of type FL (see Part 9), a good electrical connection from the vehicle chassis to earth shall be established before tanks are filled or emptied. In addition, the rate of filling shall be limited.

- S3:** **Special provisions concerning the carriage of infectious substances**  
The requirements 8.1.4.1.1 and 8.1.4.1.2 and the requirements in 8.3.4 shall not apply.
- S4:** See 7.1.7.  
***NOTE:** This special provision S4 does not apply to substances referred to in 3.1.2.6 when substances are stabilized by the addition of chemical inhibitors such that the SADT is greater than 50 °C. In this case, temperature control may be required under conditions of carriage where the temperature may exceed 55 °C.*
- S5:** **Special provisions common to the carriage of radioactive material of Class 7 in excepted packages (UN Nos. 2908, 2909, 2910 and 2911) only**  
The requirements of the instructions in writing of 8.1.2.1 (b) and of 8.2.1, 8.3.1 and 8.3.4 shall not apply.
- S6:** **Special provisions common to the carriage of radioactive material of Class 7 other than in excepted packages**  
The provisions of 8.3.1 shall not apply to vehicles carrying only packages, overpacks or containers bearing category I-WHITE labels.  
The provisions of 8.3.4 shall not apply provided there is no subsidiary hazard.  
**Other additional requirements or special provisions**
- S7:** (Deleted in ADR)
- S8:** During the carriage of these substances, stops for service requirements shall as far as possible not be made near inhabited places or frequented places. A longer stop near such places is permissible only with the consent of the competent authorities. This special provision only applies when transporting a load that is not a small load according to 1.1.3.6.
- S9:** During the carriage of these substances, stops for service requirements shall as far as possible not be made near inhabited places or frequented places. A longer stop near such places is permissible only with the consent of the competent authorities.
- S10:** During the period September to May, when a vehicle is stationary, the packages shall be effectively protected against the action of the sun, e.g. by means of sheets placed not less than 20 cm above the load.
- S11:** If, according to other regulations applicable in the jurisdiction, a driver has followed equivalent training under a different regime or for a different purpose covering the subjects defined in 8.2.2.3.5, the specialization training course may be totally or partially dispensed with.
- S12:** If the total number of packages containing radioactive material carried in the transport unit does not exceed 10, the sum of the transport indexes does not exceed 3 and there are no subsidiary hazards, the requirements in 8.2.1 concerning the training of drivers need not be applied. However, drivers shall then receive appropriate training in the requirements governing the carriage of radioactive material, commensurate with their duties. This training shall provide them with an awareness of the radiation hazards involved in the carriage of radioactive material. Such awareness training shall be confirmed by a certificate provided by their employer. See also 8.2.3.
- S13:** (Deleted in ADR)
- S14 - S24:** (Reserved, not included in this Code)
- S50A:** Self-contained breathing apparatus shall be carried when this substance is transported in tanks. This requirement shall be included on the transport document.

## CHAPTER 8.6

### ROUTE PLANNING FOR VEHICLES CARRYING DANGEROUS GOODS

- 8.6.1 Prohibited routes for dangerous goods**
- 8.6.1.1 Any provisions relating to route selection due to the presence of dangerous goods on a vehicle or train shall be observed during the transport of dangerous goods.
- 8.6.1.2 The provisions may require that dangerous goods may be or shall or shall not be transported:
- (a) on a specified route; or
  - (b) in or through a specified area; or
  - (c) at a specified time.
- 8.6.1.3 The provisions may be subject to conditions concerning the quantity of certain classes or specific dangerous goods being transported.
- 8.6.1.4 The provisions may be made:
- (a) As a determination by the competent authority;
  - (b) By another authority that is authorised to make such provisions; or
  - (c) Under other legislation that applies in the jurisdiction.
- 8.6.2 Route planning for dangerous goods**
- 8.6.2.1 As far as is practicable, routes for road vehicles transporting dangerous goods shall be pre-planned. This route planning shall take into account the factors in this Section.
- 8.6.2.2 Drivers, and other persons who may be involved in vehicle routing, shall be provided with information on any route restrictions for dangerous goods in the locations where it is reasonably foreseeable that they may drive.
- 8.6.2.3 Where it is not possible to pre-plan the route in detail, the driver shall nonetheless be made aware of any areas to avoid in localities where travel is anticipated.
- 8.6.2.4 Routes should be selected to minimise the risk of personal injury or harm to the environment or property during the journey.
- 8.6.2.5 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.
- 8.6.2.6 Even where formal restrictions are not in place, consideration should be given to whether a particular route is the most appropriate route to take.

## CHAPTER 8.7

### TRANSFER OF DANGEROUS GOODS

**NOTE 1:** *The transfer of dangerous goods is an activity that may also be regulated under other legislation, such as work health and safety or dangerous goods storage and handling legislation.*

#### 8.7.1 Scope and definitions

##### 8.7.1.1 Scope

This chapter applies to the transfer of dangerous goods that is undertaken in a location that is:

- (a) accessible to the public;
- (b) within 15 metres of a building or any other place where there is likely to be a concentration of people, other than a building on the premises where the transfer takes place; or
- (c) on a premises where the transfer takes place, and that premises is a residential dwelling.

##### 8.7.1.2 Definitions

*“Accessible to the public”* means any area that is a *road* or *road related area*; except where that area has been closed off to the public and access is controlled.

**NOTE 1:** *“Road” and “road related area” are defined in the Road Rules in each jurisdiction, which are derived from the Australian Road Rules.*

*“Exclusion zone”* means the area around the vehicle and transfer infrastructure from which the public is excluded. As defined in 8.7.2.1, in no case shall the exclusion zone be smaller than a hazardous area determined as part of a hazardous area classification.

*“Occupier of the premises where transfer occurs”* means a person responsible for the premises where the dangerous goods transfer takes place.

*“Transferor”* means a person who has a task in the transfer of dangerous goods.

*“Transfer of dangerous goods”* means the transfer of dangerous goods into or out of a tank, bulk container or MEGC or package that is on a vehicle, or a tank-vehicle, tank-wagon, tube-vehicle or tube-wagon.

##### 8.7.1.3 Transfer in response to a dangerous situation or an emergency

Where transfer of dangerous goods is necessary as part of a response to a dangerous situation or another emergency, it shall be undertaken at the direction of the emergency services or the competent authority.

Where the transfer does not, or cannot comply with this chapter:

- (a) The public shall be excluded from the area where the transfer occurs; and
- (b) The transfer shall take place in accordance with plans and procedures appropriate for the dangerous situation or emergency.

**NOTE:** *The regulations empower emergency services and the competent authority to direct or undertake transport that is not strictly in compliance with this code or the regulations, including transfer to manage a dangerous situation.*

## 8.7.2

### **General**

**NOTE 1:** *Transfer of dangerous goods is a complex task, and many aspects of a transfer operation are unique to a particular site or for particular dangerous goods. It is essential that the occupier of the premises where transfer occurs and the carrier operating the vehicle work together to manage the risks arising from transfer.*

**NOTE 2:** *Safe and effective transfer requires that the risk mitigations that are put in place are effectively communicated to the personnel involved in the transfer through robust procedures, training, and appropriate supervision to ensure procedures are followed.*

### 8.7.2.1

The occupier of the premises where transfer occurs, and the carrier operating the dangerous goods vehicle shall communicate and work together to ensure that:

- (a) The transfer of dangerous goods is carried out in a way that eliminates the risks from the transfer of dangerous goods, or if it is not possible to eliminate the risks, minimise the risks so far as is reasonably practicable.
- (b) If the transfer of dangerous goods may result in the creation of a hazardous area as defined in AS 60079.10.1, the hazardous areas shall be identified.
- (c) An appropriate exclusion zone shall be determined for the transfer location. In no case shall the exclusion zone be smaller than the hazardous areas determined in (b).
- (d) Procedures are implemented to ensure that the transfer of dangerous goods is carried out safely and in accordance with this chapter.
- (e) The procedures developed are communicated to all personnel involved in the transfer, through appropriate instruction and training.

### 8.7.2.2

Transferors shall only perform a transfer task after they have been provided with instruction and training in the task.

They shall undertake the transfer in accordance with procedures that set out how to undertake the transfer safely.

## 8.7.3

### **Requirements applicable to all classes**

### 8.7.3.1

#### **General**

Packages shall be filled in accordance with Chapter 4.1

Portable tanks and UN MEGCs shall be filled in accordance with Chapter 4.2

Fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies with shells made of metallic materials, and tube-vehicles and multiple-element gas containers (MEGCs) shall be filled in accordance with Chapter 4.3

Fibre-reinforced plastics (FRP) tanks, fixed tanks (tank-vehicles), demountable tanks, tank-containers and tank swap bodies shall be filled in accordance with Chapter 4.4

Vacuum operated waste tanks shall be filled in accordance with Chapter 4.5

Equipment used for transfer shall comply with 8.1.7

### 8.7.3.2

#### **Transfer location**

#### 8.7.3.2.1

Transfer shall not be undertaken with the vehicle on a road, except in circumstances where no alternative location is possible.

#### 8.7.3.2.2

#### *Position of vehicle during transfer*

Dangerous goods shall only be transferred with the vehicle in a position:

- (a) so that it can be driven away in a forward direction; or
- (b) if it is not reasonably practicable to drive the vehicle in a forward direction owing to the layout of the site so that it can be driven away with minimal manoeuvring.

The area through which the vehicle needs to move or manoeuvre in order to leave the premises on which the transfer takes place shall, as far as practicable, be kept clear while the vehicle is on the premises.

Dangerous goods shall not be transferred into or out of a vehicle that is in an enclosed space if the transfer is likely to give rise to dangerous concentrations of dusts, mists or vapours.

8.7.3.2.3 *Designated transfer area*

A designated transfer area, including the location for the vehicle and exclusion zones determined in accordance with 8.7.2.1 shall be established. These shall be marked where it is practicable to do so, or otherwise clearly communicated to the transferor.

If the occupier of the premises where transfer occurs has marked or otherwise designated an area on the premises in which a transfer operation is to take place, the vehicle shall be parked within the designated area during the transfer operation.

8.7.3.2.4 *Transfer in enclosed spaces*

Dangerous goods shall not be transferred into or out of a vehicle that is in an enclosed space if the transfer is likely to give rise to dangerous concentrations of dusts, mists or vapours.

**8.7.3.3** ***Transfer operation***

8.7.3.3.1 *General*

Dangerous goods shall not be transferred out of one vehicle into another vehicle.

Dangerous goods shall not be transferred into or out of a vehicle unless, throughout the transfer operation:

- (a) The vehicle has been secured against movement;
- (b) The cabin of the vehicle is unoccupied.

**NOTE:** *Bitumen tank vehicles may have these systems overridden to allow coupling to road making plant, but this may only occur in a location with restricted access and appropriate procedures in place to ensure safety.*

The level of light at all valves, fittings, gauges and hose connections that are used or may be used during a transfer operation shall be adequate to allow the transfer operation to be conducted safely.

A hose used in connection with a transfer operation should be handled so as to avoid excessive curvature, stress, abrasion or kinking that may damage the hose or its connections.

8.7.3.3.2 *Transfer under gas pressure*

If dangerous goods are transferred under gas pressure into or out of a vehicle:

- (a) the design pressure of the supplying receptacle shall not be exceeded; and
- (b) the gas used in the transfer operation shall be chemically inert to the dangerous goods being transferred; and
- (c) air shall not be used to transfer flammable dangerous goods.

8.7.3.3.3 *Transfer process*

8.7.3.3.3.1 Prior to commencing transfer, the transferor shall:

- (a) Establish an exclusion zone in accordance with the site procedures.
- (b) Verify that there is sufficient ullage space in the receiving receptacle for the quantity that is to be transferred.
- (c) If dangerous goods are to be transferred into or out of a vehicle in an area which is accessible to other vehicles, all reasonably practicable measures

shall be taken to prevent any vehicle from driving over the hose assembly or striking its connections.

- 8.7.3.3.3.2 Throughout the transfer, the transferor shall:
- (a) remain in proximity with the vehicle during the transfer operation; and
  - (b) be in a position to observe all relevant valves, fittings, gauges and hose connections that are used or may be used during the transfer operation; and
  - (c) have access to all equipment necessary and be prepared to stop the transfer operation in the event of:
    - (i) an unauthorised person entering the exclusion zone;
    - (ii) an occurrence that makes it unsafe to continue the transfer; or
    - (iii) an escape, leak or spill of the dangerous goods.

- 8.7.3.3.3.3 If the transferor is required to leave the area, the transfer shall be stopped, and the transfer shall only be recommenced after ensuring that the transfer is safe to continue.

**NOTE:** *The most effective means of ensuring that transfer is safe to continue is to start the transfer process from the beginning, as this reduces the risk of confusion about what has been done.*

- 8.7.3.3.3.4 All closures and valves that were removed or opened to enable the transfer to take place shall be reinstated or closed after the transfer is completed.

#### **8.7.4 Requirements applicable to certain classes**

- 8.7.4.1 In addition to the requirements in 8.7.1 to 8.7.3, the requirements of 8.7.4 apply to certain substances. In the event of conflict, the requirements of 8.7.4 shall take precedence.

#### **8.7.4.2 Requirements applicable to class 2**

- 8.7.4.2.1 The engine of the vehicle, and any internal combustion auxiliary engine on the vehicle, shall be stopped while hose connections for the transfer of dangerous goods of Division or Subsidiary Hazard 2.1 are coupled to or uncoupled from the vehicle or tank on the vehicle.

- 8.7.4.2.2 UN 1075 (petroleum gases, liquefied) shall be transferred into or out of a vehicle in accordance with AS/NZS 1596.

- 8.7.4.2.3 A person capable of using the transfer equipment shall remain at the vehicle and another person capable of using the transfer equipment shall remain at the storage container, except where:

- (a) The dangerous goods are UN 1075 (petroleum gases, liquefied), and the transfer is undertaken in accordance with the requirements of AS/NZS 1596 for in situ filling.
- (b) An unobstructed line of sight, or another equally effective method, is maintained between the vehicle and the fill point of the storage container; and the transfer can be safely undertaken by a single person.

- 8.7.4.2.4 A person shall not transfer UN 1073 (liquefied oxygen) into or out of a road vehicle unless, during the transfer operation, there are no combustible substances or surfaces within 1 metre of the transfer hose are made of concrete or other non-combustible material.

- 8.7.4.2.5 Liquefied gases shall not be transferred into a storage tank or other receptacle housed within a building unless:

- (a) the building is designed and used solely for the purpose of storing dangerous goods of Class 2; or

- (b) the building may be used for that purpose under a law of the State or Territory in which the building is located that relates to the storage and handling of dangerous goods.

### **8.7.4.3 Requirements applicable to class 3**

8.7.4.3.1 Tanks or other containers shall be bottom filled. Where bottom filling is not possible, the filling shall be through:

- (a) A tight fill connection and fill pipe, as described in AS 1692; or
- (b) A loading spear that remains in contact with the bottom of the tank throughout the loading process.

8.7.4.3.2 Class 3 dangerous goods shall be transferred in accordance with AS 1940.

8.7.4.3.3 Class 3 dangerous goods shall not be transferred directly into packagings from a vehicle, other than a storage tank.

8.7.4.3.4 Class 3 dangerous goods shall only be transferred into or out of a vehicle through a pipeline and hose connection; except in circumstances where AS 1940 permits the use of a hand-held nozzle.

### **8.7.4.4 Additional requirements applicable to all flammable dangerous goods**

8.7.4.4.1 These provisions apply to the transfer of dangerous goods of class 3, 4 or gases of group F.

#### *8.7.4.4.2 Ignition sources within a hazardous area*

8.7.4.4.2.1 During a transfer operation into or out of a vehicle there shall be no source of ignition within any hazardous area determined in accordance with AS/NZS 60079.10.11.

8.7.4.4.2.2 If an ignition source, or a person that may be carrying an ignition source enters the hazardous area, the transfer shall be immediately paused or stopped. The transfer shall not recommence until the ignition source has been removed from the hazardous area.

#### *8.7.4.4.3 Electrical bonding during transfer*

8.7.4.4.3.1 Where flammable dangerous goods are transferred into or out of a vehicle, the supplying receptacle shall be electrically bonded to the receiving receptacle before the transfer commences.

8.7.4.4.3.2 The bonding shall remain in place until all hose assemblies have been uncoupled and all closures have been closed.

#### *8.7.4.4.4 Engine operation during transfer*

8.7.4.4.4.1 During transfer of dangerous goods out of a road vehicle, the engine of the vehicle shall remain stopped unless the transfer involves the use of a pump or compressor driven by the vehicle's engine.

8.7.4.4.4.2 During transfer of dangerous goods into a road vehicle, the engine of the vehicle shall remain stopped unless the vehicle is a vacuum tank vehicle, or is approved to load the goods.

### **8.7.4.5 Additional requirements applicable to toxic gases and packing group I**

Dangerous goods of packing group I or Division 2.3 shall not be transferred out of a road vehicle in a place with public access, except for:

- (a) UN 1005 (ammonia, anhydrous); or
- (b) UN 3318 (ammonia solution).