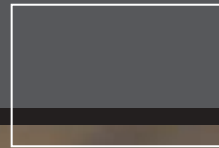
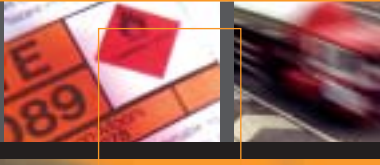


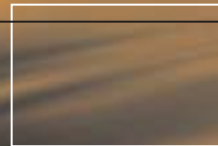
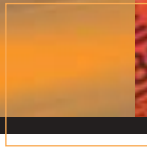
# Working with ADR

An introduction to the carriage of dangerous goods by road



Department for  
**Transport**





## ■ INTRODUCTION

Dangerous goods, such as explosives, flammables or corrosives, have inherent hazards. There is a risk that incidents involving these hazards may cause harm to people, property and the environment, eg by explosion, fire or spillage.

Great Britain (GB) legislation on the carriage of dangerous goods has gradually converged with international legislation. Both aim to regulate in such a way that risks are reduced as far as possible and incidents can be safely and effectively dealt with, but commerce is not impeded.

Responsibility for the preparation of future GB legislation on the transport of dangerous goods by road and rail is transferring from HSE to the Department for Transport (DfT) in time for DfT to draft Regulations implementing the 2005 amending Commission Directives. These Regulations have to be in place by 1 July 2005.

### Changes

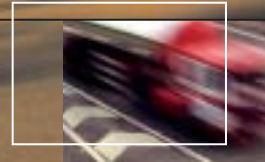
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004<sup>1</sup> (the Carriage Regulations) apply to the carriage of dangerous goods by road and rail. They place general duties on everyone with a role in the carriage of dangerous goods, and specific duties on those in the transport chain, ie consignors, carriers, loaders, packers, etc.

The Carriage Regulations refer to the European Agreement concerning the International Carriage of Dangerous Goods by Road 2003<sup>2</sup> (ADR 2003) and Regulations concerning the International Carriage of Dangerous Goods by Rail 2003<sup>3</sup> (RID 2003). The Regulations also implement a further Directive on transportable pressure equipment.<sup>4</sup> They replace, by a single Statutory Instrument (SI), 12 previous SIs that regulated the carriage of dangerous goods by road and rail in GB.<sup>5</sup>

This leaflet covers the carriage of dangerous goods by road. It is not intended to serve as a summary of either the Carriage Regulations or ADR, but as a 'route map' to help you determine whether any carriage might fall within the scope of the Regulations and ADR, and guide you through working with both documents to determine the requirements that apply to you.

This leaflet does not cover carriage of dangerous goods by rail or by inland waterways. It does not deal with carriage of radioactive materials or transportable pressure equipment in detail - these will be covered elsewhere.

At the start of each section, there is a summary setting out the topic, relevant regulation of the



Carriage Regulations and section of ADR 2003 and which duty holder(s) it applies to.

Anyone involved in the carriage of dangerous goods must refer to ADR 2003 to understand its requirements and be able to comply with them.

## ADR 2003

ADR 2003 sets out the conditions under which dangerous goods can be carried by road, with detailed requirements spelt out in two regularly amended and updated Annexes.

There are nine parts to the Annexes. Annex A consists of Parts 1 to 7, and Annex B of Parts 8 and 9. Each Part is subdivided into Chapters and each Chapter into sections and sub-sections. For example: Part 4, Chapter 2, Section 1 is numbered '4.2.1'.

*Table 1: Contents of ADR*

1	General provisions
2	Classification
3	Dangerous Goods List; special provisions and exemptions related to dangerous goods packed in limited quantities
4	Packaging and tank provisions
5	Consignment procedures
6	Construction and testing of packagings, intermediate bulk containers (IBCs), large packagings and tanks
7	Conditions of carriage, loading, unloading and handling
8	Vehicle crews, equipment, operation and documentation
9	Construction and approval of vehicles

Part 1 defines terms used in both Annexes, spells out ADR's scope and applicability, and Part 2 places general safety obligations, to be supported by checks and other measures, on participants in the transport chain, eg training and appointment of safety advisers.

Table A, Chapter 3.2 (see 'The Dangerous Goods List') is key to the use of ADR.

General and specific definitions appear in ADR 1.2 ('Definitions and units of measurement'). Further specific terms are defined elsewhere throughout ADR.



## The Carriage Regulations

The Carriage Regulations implement ADR (with a number of exceptions). They refer directly to ADR and there are some additional or alternative requirements to ADR. You will generally need to be aware only of Parts 1 (except regulation 8), 2, 5 and 6 and Schedule 9 of the Carriage Regulations, unless you need to:

- understand competent authority (CA) functions in detail; or
- be involved in the construction/conformity assessment or re-assessment/periodic inspection/repeated use at work of transportable pressure equipment (TPE).

## EXEMPTIONS

Exemptions and application	Regulations 3-7	ADR 1.1.3-1.1.4
All		

Throughout this guide, 'exemptions' is used to mean both total exemption from all or some of the requirements of ADR or the Regulations, and partial exemptions or 'relaxations'.

ADR contains exemptions for the carriage of *packaged* dangerous goods where certain conditions apply, but these exemptions do not apply to the carriage of dangerous goods by road in tanks or in bulk.

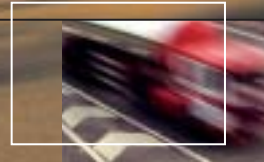
### Exemptions related to the nature of the transport operation

Subject to certain conditions and qualifications, the requirements of ADR do not apply to:

- carriage of dangerous goods by private individuals where the goods are packaged for retail sale and are intended for their personal or domestic use or for their leisure or sporting activities;
- carriage of machinery or equipment not specifically listed in the Dangerous Goods List and which contain dangerous goods in their internal or operational equipment;
- carriage undertaken by enterprises which is ancillary to their main activity;
- carriage undertaken by, or under the supervision of, the emergency services, in particular by breakdown vehicles carrying vehicles which have been involved in accidents or have broken down and contain dangerous goods;
- emergency transport intended to save human lives or protect the environment.

### Exemptions related to special provisions

Certain special provisions of ADR 3.3 exempt partially or totally the carriage of specific dangerous



goods from the requirements of ADR. The exemption applies when a relevant special provision appears in column 6 of the Dangerous Goods List against the appropriate entry for that article or substance.

### Exemptions related to dangerous goods packed in limited quantities

If a 'limited quantity' code LQ1-LQ29 (ADR 3.4) appears in column 7 of the appropriate entry of the Dangerous Goods List, then that article or substance is exempted from the requirements of ADR, but only if:

- it meets packaging and marking requirements; and
- the prescribed maximum quantities per inner packaging, and per package, are not exceeded (Table, ADR 3.4.6).

When the code LQ0 appears in column 7 of the Dangerous Goods List, the substance or article is not exempted from any requirements of ADR (unless otherwise specified).

### Exemptions related to quantities carried per transport unit

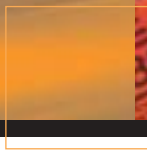
This class of exemptions is sometimes also loosely referred to as 'limited quantities', but should not be confused with those described above.

ADR 1.1.3.6 assigns dangerous goods to a transport category, which appears in column 15 of the Dangerous Goods List. This exemption applies either:

(a) where the dangerous goods carried in the transport unit are all in one transport category and the quantity carried does not exceed the value in column 3 of the table in ADR 1.1.3.6, as modified by regulation 3(7)(b) of the Carriage Regulations:

Transport category	Max total quantity per transport unit*
0	0
1	20
1A	50
2	333
2A	500
3	1000
4	unlimited

\*For articles, gross mass in kg (for articles of Class 1, net mass in kg of the explosive substance); for solids, liquefied gases, refrigerated liquefied gases and dissolved gases, net mass in kg; for liquids and compressed gases, nominal capacity of receptacles (see definition in ADR 1.2.1) in litres.



or

(b) where the dangerous goods carried in the transport unit are in more than one transport category and the total quantity carried does not exceed the value calculated in accordance with ADR 1.1.3.6.4.

If either of these conditions applies, the dangerous goods may be carried in packages on a single transport unit, and the following requirements of ADR will not apply:

### Other exemptions

ADR	Covering
5.3	Placarding and marking of containers etc
5.4.3	Documentation - instructions in writing
7.2, except for V5, V7 and V8 of 7.2.4	Carriage in packages
CV1 of 7.5.11	Prohibitions on loading and unloading in public places
Part 8, except for 8.1.4.2-8.1.4.5, 8.2.3, 8.3.4, 8.4, and S1(3), S1(6), S2(1), S4, S14-S21 of 8.5	Vehicle crews, equipment, operation and documentation
Part 9	Construction and approval of vehicles

ADR also includes exemptions relating to:

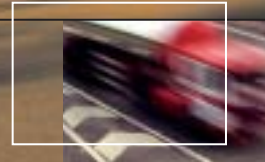
- carriage of gases;
- carriage of liquid fuels;
- empty uncleaned packagings;
- carriage in a transport chain including maritime or air carriage;
- use of portable tanks approved for maritime transport; and
- carriage other than by road.

### Derogations

There are a number of permanent relaxations from the EC Directives covering carriage of dangerous goods by road. These relaxations, referred to as 'derogations', were agreed by the EC in December 2002 and are reflected in the Carriage Regulations.

Derogations applying to the carriage of dangerous goods (with the exception of Class 1) are detailed in 'Derogations other than Class 1' (Annex 1), and derogations applying only to the carriage of Class 1





dangerous goods are described under 'Class 1 derogations' (Annex 2).

## ■ CLASSIFICATION OF DANGEROUS GOODS

Classification of goods	Regulation 15	ADR 2.1-2.3 and Dangerous Goods List
Consignor		

Dangerous goods should not be consigned for carriage by road unless the goods have been classified in accordance with:

- the relevant general requirements of ADR 2.1;
- the requirement to assign UN number, name and description, and packing group (where appropriate) to those goods as indicated in columns 1, 2 and 4 respectively of the Dangerous Goods List;
- any relevant class-specific requirements of ADR 2.2, as indicated in columns 3a and 3b of the Dangerous Goods List; and
- the relevant test methods as set out in ADR 2.2 and 2.3.

### Principles of classification

Dangerous goods covered by each UN Class are defined on the basis of their properties according to ADR 2.2.x.1, where x indicates the UN Class:

Class 1	Explosive substances and articles
Class 2	Gases
Class 3	Flammable liquids
Class 4.1	Flammable solids, self-reactive substances and solid desensitized explosives
Class 4.2	Substances liable to spontaneous combustion
Class 4.3	Substances which, in contact with water, emit flammable gases
Class 5.1	Oxidizing substances
Class 5.2	Organic peroxides
Class 6.1	Toxic substances
Class 6.2	Infectious substances
Class 7	Radioactive material
Class 8	Corrosive substances
Class 9	Miscellaneous dangerous substances and articles

Once the class, subsidiary risk (if any) and packing group (if any) have been established, the relevant UN



number can be determined.

Articles or substances not listed in the Dangerous Goods List or defined in any of the sub-sections ADR 2.2.x.2 have to be assigned to the relevant Class according to the danger(s) they present on the basis of the criteria mentioned in ADR 2.2.x.1, and using appropriate test methods. The danger(s) presented by an article or substance must be determined on the basis of its physical or chemical properties.

## ■ THE DANGEROUS GOODS LIST

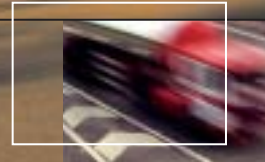
Dangerous Goods List and special provisions	Regulation 17	ADR 3.2
All		

The Dangerous Goods List is ADR Table A, Chapter 3.2, which lists all dangerous goods in UN number order, and contains relevant information on the goods listed, such as name, class, packing group(s), label(s) to be affixed, etc. The entries for each substance or article refer to detailed, specific carriage requirements ('special provisions').

### Dangerous Goods List - topics covered, and references

Column	Topic	Carriage Regulations	ADR
1	UN Number	15	
2	Name and description	15	3.1.2
3a	Class	15	2.2
3b	Classification code	15	2.2
4	Packing group	15	2.1.1.3
5	Labels	20(1), 20(3)	5.2.2
6	Special provisions	3(14), 17(1), 17(4)	3.3
7	Limited quantities	3(15)	3.4.6





*Packaging:*

8	Packing instructions	18	4.1.4
9a	Special packing provisions	17(1), 18	4.1.4
9b	Mixed packing provisions	18	4.1.10

*Tanks:*

10	UNPT: Instructions	19(1), 23(3)	4.2.5.2
11	UNPT: Special provisions	17(1), 19(1)	4.2.5.3
12	ADRT: Tank code	19(3), 23(3)	4.3
13	ADRT: Special provisions	17(1), 19(3)	4.3.5, 6.8.4
14	Vehicle or tank carriage	23(4)	9.1.1.2
15	Transport category	3(6), 3(7), 7(1)	1.1.3.6

*Transport category:*

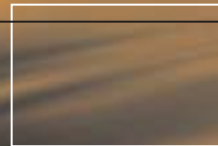
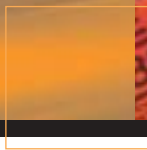
15	Transport category	3(6), 3(7), 7(1)	1.1.3.6
----	--------------------	------------------	---------

*Special carriage provisions:*

16	Packages	17(1), 23(1)	7.2.4
17	Bulk	17(1), 23(2)	7.3.3
18	Loading etc	17(1), 23(5)	7.5.11
19	Operation	17(1), 23(10)	8.5
20	Hazard identification number	20(3)	5.3.2.3

UNPT = UN portable tanks; ADRT = ADR tank

Table B at 3.2.2 is an alphabetical index giving the UN number of specific dangerous goods.



The following types of entries appear in the Dangerous Goods List:

- single entries for well-defined substances or articles including entries for substances covering several isomers (eg UN 1090, Acetone); and
- collective entries, consisting of:
  - generic entries for well-defined groups of substances or articles other than 'not otherwise specified' (NOS) (eg UN 1133, adhesives),
  - specific NOS entries covering a group of substances or articles of a particular chemical or technical nature (eg UN 1477, nitrates, inorganic, NOS), and
  - general NOS entries covering a group of substances or articles having one or more dangerous properties (eg UN 1993, flammable liquid, NOS).

### Points to look out for

Care needs to be taken when using the Dangerous Goods List. For instance, there are occasionally multiple entries, with matching UN number and name. Such entries differ in columns 3a-20, eg the entries against UN 1436 differ in packing group and special provisions.

Multiple entries for the same UN number sometimes appear, where there are different forms of the substance, and hence slightly different names. For example, UN 3282 has liquid and solid forms. The differences are less obvious when looking at, for example, UN 1139 or UN 1263.

There may be more than one UN number for the same article or substance, and these may be consecutive (such as 0248 and 0249 for water-activated explosive contrivances), or not (such as 0102 and 0290 for metal-clad detonating cord). If in doubt, consult either the alphabetic index to the Dangerous Goods List, or an electronic version of the Dangerous Goods List extracted from the published CD-Rom and sorted into alphabetical order of column 2.

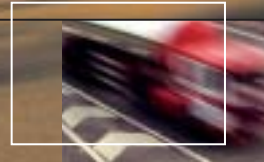
## REGULATIONS - GENERAL REQUIREMENTS

### Training

Training	Regulation 9	ADR 1.3, 8.2.3
All		

#### *General training*

Anyone involved in the carriage of dangerous goods by road has to make sure that they and any of their employees who have any responsibility for such carriage are appropriately trained (ADR 1.3). This



requirement covers, for example, loaders and unloaders, personnel in freight forwarding agencies, and drivers who do not require specialised driver training (see 'Driver training').

The training must include:

- awareness training, covering the general requirements of ADR;
- function-specific training, covering the detailed requirements of ADR and (where relevant) other modes of transport; and
- safety training, covering the hazards and dangers presented by dangerous goods and awareness of safe handling and emergency response procedures commensurate with the degree of risk of injury or exposure arising from an incident involving carriage of dangerous goods.

Details of all training should be kept by the employer and employee. Training must be verified when starting a new job, and there should be periodic refresher courses taking account of changes in the law.

### ***Driver training***

Driver training	Regulation 24(1)(a)	ADR 8.2.1, 8.5*
Carrier		

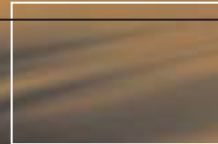
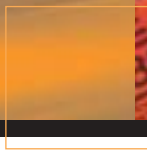
\* Any relevant requirements of ADR 8.5 are indicated in column 19 of the Dangerous Goods List.

ADR 8.2 requires drivers of:

- vehicles with a permissible maximum mass exceeding 3.5 tonnes carrying dangerous goods;
  - tank vehicles; and
  - vehicles carrying Class 1 dangerous goods, or certain Class 7 (radioactive) material
- to hold a certificate ('VTC' or vocational training certificate) issued by the Department for Transport stating that they have attended appropriate training courses and passed an examination on the requirements to be met during carriage of dangerous goods.

The main objectives of training (which must include theoretical courses, individual practical exercises and appropriate refresher and specialist training) are to:

- make drivers aware of hazards arising in the carriage of dangerous goods;
- give them basic information to minimise the likelihood of an incident taking place; and
- enable them to take necessary measures for their own safety and that of the public and the environment, to limit the effects if an incident does occur.



Drivers of vehicles carrying dangerous goods must, on request, produce their VTC to the police or any goods vehicle examiner.

Drivers not requiring a VTC are still covered by the general training requirements of ADR 1.3 (see 'General training').

### Safety obligations

Safety obligations	Regulation 10	ADR 1.4
All; specific duties on: carrier, consignee, consignor, filler, loader, operator, packer		

ADR 1.4 requires that anyone involved in the carriage of dangerous goods by road must:

- act to avoid damage/injury from, and minimise the effects of, foreseeable dangers; and
- when there is an immediate risk to public safety, notify the emergency services and give them the necessary information.

When dangerous goods are being consigned for a third party, the third party has to inform the consignor in writing that the goods are dangerous and make available all the necessary information and documentation.

ADR 1.4 places specific duties on three principal classes of duty holder:

- consignors (ADR 1.4.2.1);
- carriers (ADR 1.4.2.2); and
- consignees (ADR 1.4.2.3);

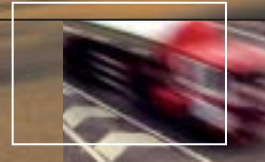
as well as other participants (ADR 1.4.3), including (but not limited to) loaders, packers, fillers and operators of tank containers and portable tanks.

ADR 1.4 identifies certain instances where the relevant duty holder does not personally have to carry out the required actions, but can rely on information provided by other participants in the carriage of dangerous goods.

## REGULATIONS - SPECIFIC REQUIREMENTS

### Appoint a safety adviser

Appoint a DGSA	Regulation 12	ADR 1.8.3.1, 1.8.3.3-1.8.3.9
Carrier, filler, loader		



ADR 1.8.3 requires every organisation whose activities include the carriage of dangerous goods by road, and related loading (but not unloading), or filling, to appoint one or more dangerous goods safety advisers (DGSA's). Their overall duty is to make sure that carriage of dangerous goods and related activities are conducted in accordance with requirements and in the safest possible way. They advise on, and ensure compliance with ADR requirements for:

- identification of dangerous goods;
- equipment used in connection with carriage and loading;
- training of employees and maintenance of training records; and
- emergency procedures to be taken in the event of any accident or incident that may affect safety.

DGSA's are also responsible for preparing for management an annual report on relevant aspects of the carriage of dangerous goods by the organisation, and for ensuring that an accident report is prepared whenever an incident involving the carriage of dangerous goods affects people, property or the environment.

DGSA's have to be capable of performing their duties. They must undergo training, sit an examination and hold a vocational training certificate (valid for five years) to become a DGSA.

The requirement to appoint DGSA's does not apply to organisations:

- whose activities involve the carriage of dangerous goods in quantities per transport unit below those referred to in ADR 1.1.3.6; or
- whose main or secondary activity is not the carriage or loading of dangerous goods, but which occasionally engage in the domestic carriage or related loading of dangerous goods posing little danger or risk of pollution.

### Report certain accidents involving dangerous goods

Report accidents	Regulation 13	ADR 1.8.5.1, 1.8.5.3
Carrier		

ADR 1.8.5 requires a carrier to report certain accidents involving the carriage of dangerous goods to the Department for Transport, using the model form in ADR 1.8.5.4. Such incidents are where:

- dangerous goods were released; or
- there was an imminent risk of loss of product and personal injury, or material/environmental damage estimated to exceed €50 000 occurred.



A guidance note, *Notification of occurrences involving dangerous goods*, is available from the Department of Transport.

'Personal injury' and 'loss of product' are defined in ADR 1.8.5.3.

Accident reports also have to be made to HSE, under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995<sup>6</sup> (RIDDOR), but the criteria and reporting mechanisms are different. RIDDOR reports can be made online, at [www.riddor.gov.uk](http://www.riddor.gov.uk).

### Not to carry certain dangerous goods

Prohibition of certain dangerous goods	Regulation 16	ADR 2.2
Carrier		

ADR 2.2 requires that carriers must not accept for carriage by road any goods which ADR 2.2.x.2 prohibits, eg ADR 2.2.3.2.1 says that 'substances of Class 3 which are liable to form peroxides easily...' shall not be accepted for carriage. All such articles and substances have 'carriage prohibited' against their entries in the Dangerous Goods List.

### Package dangerous goods in accordance with ADR

Packaging - use	Regulation 18	ADR 4.1 and Dangerous Goods list
Consignor, packer		

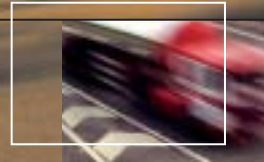
#### **General**

ADR 4.1 requires packers and consignors of dangerous goods to package them in accordance with the requirements of ADR.

General packaging requirements are set out in ADR 4.1.1, with additional requirements for the use of intermediate bulk containers (IBCs) in ADR 4.1.2. The requirements apply to new, reused, reconditioned or remanufactured packagings and to new, reused, repaired or remanufactured IBCs, and to new or reused large packagings.

Principally, dangerous goods must be packed in good quality packagings ('packagings' includes IBCs, large packagings and pressure receptacles), strong enough to withstand the shocks and loadings normally encountered during carriage.





### ***Specific packing requirements***

Columns 8 and 9a of the Dangerous Goods List give the specific packing instructions and special packing provisions that are to be applied to each article or substance. These instructions and special provisions are explained in ADR 4.1.3 and listed in ADR 4.1.4.

### ***Mixed packing***

Different dangerous goods, or dangerous goods and other goods, may be packed together in combination packings provided that they do not react dangerously with each other, and the requirements of any relevant mixed packing provisions are complied with. Mixed packing provisions are given in column 9b of the Dangerous Goods List and explained in ADR 4.1.10.

### **Mark, label and placard packages and vehicles in accordance with ADR**

Packages - marking and labelling	Regulation 20(1)	ADR 5.1, 5.2, 5.5 and Dangerous Goods List
Vehicles - marking and placarding	Regulation 20(3), 55, Schedule 9(1)	ADR 5.3, 5.5 and Dangerous Goods List
Documentation	Regulation 20(4)	ADR 5.4, 5.5
carrier, consignee, consignor, filler, loader, packer		

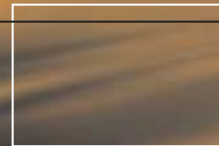
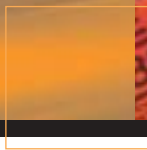
### ***Packages - marking and labelling***

Every person or organisation whose activities include the packing or consigning of dangerous goods by road has to comply with the marking and labelling requirements of ADR.

Every package, where appropriate, has to be clearly and durably marked with the letters 'UN' followed by the UN number of the dangerous goods; and the label(s) indicated in column 5 of the Dangerous Goods List and described in ADR 5.2.2.2 must be fixed to each package of dangerous goods.

In addition:

- Special provisions indicated in column 6 may vary or add to the basic labelling requirement.
- If two or more dangerous goods are packed together, the outer packaging has to be labelled or marked once for each of the dangerous goods.
- A further label ('model number 11' orientation arrows) has to be applied in certain circumstances (ADR 5.2.2.1.12), and there are additional marking provisions for Classes 1, 2 and 7, as well as special labelling provisions for Classes 4.1/5.2, 6.2 and 7.



### ***Vehicles - marking and placarding***

Every person or organisation whose activities include the loading, consigning or carriage of dangerous goods by road, or filling of dangerous goods into specified equipment for carriage by road has to make sure that any vehicle, container, etc displays the appropriate placards, as well as the applicable marks, orange-coloured plates, and hazard identification numbers (HINs) or emergency action codes (EACs).

Placards have to correspond to the labels required in columns 5 and 6 of the Dangerous Goods List (design specifications for placards are given in ADR 5.3.1.7) and have to be fixed to the outside surface of vehicles, containers, etc. Placards not relating to the dangerous goods being carried (or to residues of them) have to be removed or covered.

Further special requirements are set out in ADR 5.3, including requirements for primary and additional orange-coloured plates.

### ***Domestic journeys and EACs***

Where dangerous goods are being carried:

- by road;
  - in tanks or in bulk; and
  - with the transport unit registered in GB and the whole of the journey taking place in GB,
- the loader, filler, consignor and carrier must display the appropriate EACs, not HINs.

Orange-coloured plates must be displayed where:

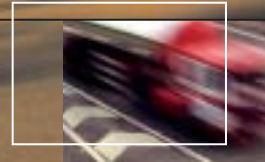
- a transport unit or tank-vehicle is carrying one dangerous good in a tank, or in bulk in either the transport unit or in a single container; or
- where a transport unit or tank vehicle is carrying more than one dangerous good in a tank, or in bulk in either the transport unit or a tank vehicle with more than one tank or container.

Where dangerous goods are being carried in tanks, a telephone number must be displayed where information on the dangerous goods being carried can be obtained at any time. Provided certain conditions are met, the information that has to appear on placards and orange-coloured plates (including the telephone number) may appear on hazard warning signs instead.

### ***Carrying and retaining documentation***

The driver and vehicle crew have to make sure that the documents specified in ADR 8.1.2.1 and described under 'Documentation' are carried on the vehicle, where applicable.

Those who carry or consign dangerous goods by road have to make sure that the transport document



accompanies each consignment, and a carrier must retain a written record of all the information in any transport document for three months after the journey finishes.

### Construct and test packagings and packages in accordance with ADR

Packaging - manufacture, testing and marking	Regulation 21(1)	ADR 6.1, 6.3-6.6
Provision of information	Regulation 21(2)	
Consignor, distributor, manufacturer, owner, packer, reconditioner		

ADR 6.1 requires that anyone packing, manufacturing, reconditioning, or distributing a packaging or package which is intended to be used for the carriage of dangerous goods has to make sure that it is manufactured/reconditioned/tested/marked in accordance with the requirements of ADR. There are particular requirements governing pressure receptacles - see 'Construct, test and use pressure receptacles in accordance with ADR'.

6.1.4	Specific requirements for different packaging types
6.1.1.5, 6.3.1.3, 6.4.2.12, 6.5.1.1.4	Procedures to be followed, and types and dimensions of closures etc needed to make sure that packages etc presented for carriage can pass the applicable performance test in ADR 6.1, 6.3, 6.4 and 6.5 (IBCs) respectively

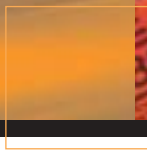
Any manufacturer or subsequent distributor of a packaging used for the carriage of dangerous goods by road has to make sure that the information required by ADR is provided to the consignor and the packer before the packaging is presented for carriage:

### Construct, test and use tanks in accordance with ADR

Tanks	Regulation 5,18,19,21,22, Part 4, Schedules 1, 2	ADR 4.2-4.5, 6.7-6.10 and Dangerous Goods List
-------	--	--

'Old' tanks (those constructed before the Carriage Regulations came into force) can continue to be used for the remainder of their lives, as long as they comply with Schedule 1, which requires tanks to be:

- safe and suitable for purpose;
- inspected according to a suitable written scheme (up to 1 July 2006, by a competent person, and after that date, by an approved inspection body).



Tanks constructed after the Carriage Regulations came into force ('new' tanks) will have to comply with the ADR construction and use of tanks requirements.

From 1 July 2005, manufacturers of new tanks within scope of Part 4 of the Carriage Regulations can choose to comply with the requirements of that Part. Tanks can be assessed or re-assessed and periodically inspected against the construction requirements of ADR by inspection bodies approved under (and working to procedures set out in) Part 4. Owners of existing tanks will be able to re-assess their tanks against the requirements of Part 4. However, from 1 July 2007, all new tanks within scope of Part 4 will need to comply with Part 4.

### Construct, test and use pressure receptacles in accordance with ADR

Pressure receptacles	Regulation 5,18,21, Part 4, Schedules 2, 5-8	ADR 4.1, 6.1, 6.3-6.6
----------------------	--	-----------------------

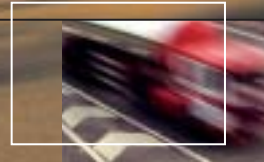
'Pressure receptacle' is a generic term encompassing (i) cylinders, cryogenic receptacles, tubes; and (ii) pressure drums and bundles of cylinders.

Cylinders, cryogenic receptacles and tubes built before 1 July 2003 can continue to be used for the remainder of their safe lives, as long as they comply with Schedule 2, which requires these pressure receptacles to be:

- built to an approved standard;
- assessed by an approved inspection body as being in conformity with that standard and periodically inspected (up to 1 July 2006, by a competent person and after 1 July 2006, by an approved inspection body).

However, from 1 July 2001, some of these types of pressure receptacle may have been constructed and assessed/re-assessed for conformity in accordance with the requirements of Part 4 of the Carriage Regulations. In this case, such pressure receptacles should continue to comply with Part 4. Those built from 1 July 2003 onwards must meet the requirements of Part 4.

Pressure drums and bundles of cylinders built before the Carriage Regulations come into force can continue to be used for the remainder of their safe lives, so long as they comply with the requirements of Schedule 2. If these types of pressure receptacles are built after the Regulations come into force, they have to meet the construction and use requirements of ADR.



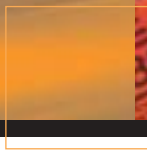
From 1 July 2005, manufacturers of new pressure drums and bundles of cylinders will have the option of meeting the requirements of Part 4, and owners of existing pressure drums and bundles of cylinders will be able to re-assess such pressure receptacles to Part 4. However, from 1 July 2007, new pressure drums and bundles of cylinders will have to comply with Part 4.

### Carry, load, unload and handle dangerous goods in accordance with ADR

Carriage in large containers etc	Regulation 23(1)(a)	ADR 7.1
Carriage in bulk	Regulation 23(2)	ADR 7.3.1 and Dangerous Goods List
Loading and filling, unloading, handling	Regulation 23(5)	ADR 7.5 and Dangerous Goods List
Carrying	Regulation 23(6), 23(7)	ADR 7.5.8, 7.5.10
Carrier, filler, loader		

Part 7 of ADR requires carriers, loaders and fillers (as appropriate) to comply with the applicable carriage, loading, unloading and handling provisions of ADR.

Dangerous Goods List, column 16	Special provisions for carriage: packages
Dangerous Goods List, column 18	Special provisions for carriage: loading, unloading and handling
7.1	General provisions
7.2	Carriage in packages
7.3.1	Prohibition on carrying goods in bulk in vehicles or containers, unless authorised by code VV appearing in column 17 of Dangerous Goods List
7.5.1-7.5.7	General provisions concerning loading, unloading and handling; mixed loading with dangerous and non-dangerous goods; limits on quantities; handling and stowage
7.5.8	Cleaning after unloading
7.5.9	Prohibition of smoking



7.5.10	Precautions against electrostatic charges
7.5.11	Additional class-specific provisions

## Provide correct vehicle equipment, documentation

### *Transport unit*

Transport unit	Regulation 24(1)(b)	ADR 8.1.1, 8.1.3-8.1.5 and 8.5*
Carrier		

\* Relevant requirements of ADR 8.5 are indicated in column 19 of the Dangerous Goods List.

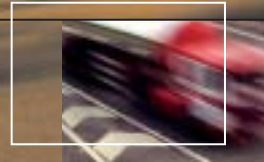
Any carrier carrying dangerous goods by road has to make sure that the transport unit complies with the relevant requirements of ADR:

- A transport unit loaded with dangerous goods must not include more than one trailer or semi-trailer.
- Transport units carrying dangerous goods have to be placarded and marked (see 'Vehicles - marking and placarding').
- They must carry appropriate fire-fighting equipment:
  - Transport units carrying dangerous goods in accordance with ADR 1.1.3.6, as modified by regulation 3(7), have to be equipped with one portable fire extinguisher for the inflammability classes A, B and C, with a minimum capacity of 2 kg dry powder (or an equivalent capacity of any other suitable extinguishing agent).
  - Transport units other than those carrying dangerous goods in accordance with ADR 1.1.3.6, as modified by regulation 3(7), have to be equipped with at least the above, and one or more additional fire extinguisher of greater capacity, depending on the permissible net mass of the vehicle.

Finally, every transport unit carrying dangerous goods has to be equipped with:

- for each vehicle, at least one chock of a size suited to the weight of the vehicle and the diameter of the wheels;
- two self-standing warning signs;
- a suitable warning vest or warning clothing (eg as described in European Standard EN 471) for each member of the vehicle crew;
- a pocket lamp (see also ADR 8.3.4) for each member of the vehicle crew;
- a respiratory protective device conforming to additional requirement S7 (see ADR 8.5) - if this





additional requirement applies according to column 19 of the Dangerous Goods List; and

- the personal protection equipment necessary to take the additional and/or special actions referred to in the written instructions required by regulation 24(5) and specified in ADR 5.4.3 (see 'Documentation').

Documentation	Regulation 24(2), 24(5)	ADR 8.1.2
Carrier, vehicle crew		

### **Documentation**

The carrier and every vehicle crew member have to make sure that the applicable requirements of ADR 8.1.2 are met, ie that (in addition to the documents required under other regulations) the following documents are carried on the transport unit:

- copies of the main text of any applicable special agreements (ADR 1.5);
- permit authorising transport operation (when carriage is on the basis of such agreements) (ADR 2.2.41.1.13, 2.2.52.1.8, 5.4.1.2.1 (c), 5.4.1.2.3.3);
- transport documents (ADR 5.4.1);
- container packing certificate (ADR 5.4.2);
- instructions in writing (ADR 5.4.3);
- driver's training certificate when ADR requires this (ADR 8.2.1); and
- certificate of approval for each transport unit (when ADR requires this) (ADR 9.1.2).

The instructions in writing prescribed in ADR 5.4.3 have to be kept in a readily identifiable form in the driver's cab, and the carrier has to make sure that the drivers concerned understand and are capable of carrying out these instructions properly.

In the event of an accident or emergency involving the carriage of dangerous goods, the driver of the transport unit has to take all reasonable steps to ensure written instructions are complied with.

Different types of documents should be separated to prevent confusion.

See also 'Carrying and retaining documentation'.

### **Carriage**

Carriage	Regulation 24(2)-24(4)	ADR 8.1.2.1(b), 8.3-8.5*
Carrier, vehicle crew		

\* Any relevant requirements of ADR 8.5 are indicated in column 19 of the Dangerous Goods List.



The carrier and every vehicle crew member have to make sure that the applicable requirements of ADR 8.3, 8.4 and 8.5 are met. These requirements relate to:

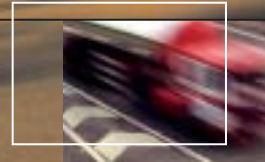
- attendance;
- carrying passengers;
- ability to use fire-fighting equipment;
- opening of packages containing dangerous goods;
- use of lighting apparatus that contains a flame or produces sparks;
- prohibition of smoking inside or near vehicles, during loading and unloading;
- shutting off the vehicle engine during loading and unloading; and
- applying parking brakes;

### Carry dangerous goods in vehicles that comply with ADR

Vehicle construction and approval	Regulation 7(6)(b), 25	ADR Part 9
Carrier		

Any carrier of dangerous goods by road has to make sure that the vehicles used comply with the applicable construction, equipment and approval requirements set out in ADR Part 9.

Part 9 need not apply to vehicles constructed before 1 January 1997, although the carrier still has to make sure that the vehicle is suitable for the safe carriage of the dangerous goods in question.



## ■ ANNEX 1 - DEROGATIONS (OTHER THAN CLASS 1)

### Carriage Regulations carriage by road derogations (other than Class 1)\*

Regulation	Relating to
'Small quantity' and 'local transport' derogations:	
3(7)(a)	Requirement to carry the transport document for quantities of dangerous goods not exceeding the ADR 1.1.3.6.3 thresholds
3(10)	Carriage of certain luminous devices, smoke detectors, and gaseous tritium light devices
3(15), 7(13)-7(14)	Carriage of alcoholic beverages with no more than 70% abv in 1000 litre non type-approved wooden casks
3(16), 3(18)	Carriage across public roads, between one part of private premises and another
5(14)	Movement of storage tanks subject to taking suitable safety measures
5(15)	Carriage of light gauge metal cylinders used for hot air balloons, subject to the conditions set out in ADR Multilateral Agreement M90 <sup>7</sup> : carriage only between the filling and launch/landing sites, and a limit of 5 cylinders per transport unit will also apply
7(4)	Distribution of small quantities of dangerous goods in inner packagings, provided they initially meet the requirements for limited quantities (excluding those of Classes 1 and 7)
7(5)(a)	Opening of packages by driver and vehicle crew when authorised to do so by the vehicle operator
Other derogations:	
4	International carriage
5, Schedule 1	Use of new tanks
5, Schedules 1-2	Construction and use of tanks and pressure receptacles
7(6)	Use of old tanks
7(8)-(11)	Carriage of liquefied gas
36(4), (7)	Exemptions in accord with multilateral agreements; ad hoc exemptions
36(7)	Ad hoc exemptions
46-52	Reasons of national security
55	Displaying emergency action codes (EACs)
57	Use of packagings constructed before 1 January 1997

\* Derogations relating to carriage by road of Class 7 are dealt with by the Department for Transport

## ■ ANNEX 2 - CLASS 1 DEROGATIONS AND ADDITIONAL CLASS 1 REQUIREMENTS

### Class 1 derogations

Regulation	ADR	Note
3(7)(b)	1.1.3.6.3	Increased threshold for Transport Category 1 explosives from 20 kg to 50kg and for transport category 2 explosives from 333 kg to 500 kg. The increased thresholds apply to all relevant explosives requirements
7(1)-(2)	7.5.1-7.5.2	Additional GB mixing rules, allowing greater flexibility for carrying different types of explosives and explosives with other dangerous goods
7(3)	7.5.5	Permits the carriage in GB of up to 5000 kg of explosive articles of 1.1C, 1,1D, 1.1E and 1.1J in an EX/II vehicle
7(5)(c)-(d)	8.5 S1(6)	Supervision of vehicles where more than 50 kg of Class 1 substances and articles are being carried

Four permanent domestic (UK) derogations from EC Directives covering carriage of Class 1 dangerous goods by road are reflected in the Carriage Regulations.

### Additional Class 1 requirements

#### *Carriage by private individuals etc*

Carriage by private individuals etc	Regulation 3(9)	ADR 1.1.3.1(a), (c)
All		

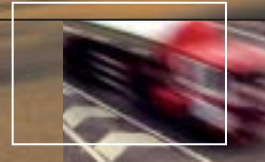
The Carriage Regulations do not apply to the carriage of dangerous goods by private individuals, in the circumstances set out in ADR 1.1.3.1(a) and where the net mass of explosive substance in a transport unit does not exceed:

- fireworks: 50kg;
- other explosives or a combination of fireworks and other explosives: 30kg.

The individual carrying the explosives has to make sure that the explosives are loaded, stowed, carried and unloaded safely, and has to take all reasonable steps to ensure the security of the explosives.

Where the explosives are being carried on public transport, other conditions and limits apply (see 'Only carry certain Class 1 goods on public transport').

Despite the general application of ADR 1.1.3 exemptions, the following requirements of ADR do apply



to the carriage of Class 1 by road by private individuals and enterprises when the carriage is ancillary to their main activity:

<b>ADR</b>	
7.5.2	Mixed loading requirements
8.3.5	Prohibition on smoking near or inside vehicles carrying dangerous goods
8.5 S1(3), S1(6)	Prohibition on fire or naked flame in or near vehicles carrying Class 1, and during loading/unloading of Class 1

### *Ensure attendance for carriage of Class 1*

Attendance for carriage of Class 1	Regulation 46	ADR 1.1.3, 1.1.3.6, 8.2.3
Carrier		

A carrier carrying Class 1 goods by road in a 'transport unit' (defined in ADR 1.2.1 as a motor vehicle with or without a trailer attached) must make sure that, when the transport unit is not parked, its driver is accompanied by an attendant who:

- is competent to ensure the security of the goods and has been appropriately trained (ADR 1.3, 8.2.3); and
- has been given detailed written instructions on his responsibility for the goods.

An attendant is not required in those circumstances set out in regulation 46(2), especially where the quantity of Class 1 goods being carried does not exceed the maximum total quantities per transport unit calculated in accordance with ADR 1.1.3.6 as modified by regulation 3(7).

### *Complete carriage of Class 1 within a reasonable length of time*

Duration of carriage and delivery of Class 1	Regulation 47	---
Attendant, carrier, driver		

The carrier and driver of a vehicle carrying Class 1 goods by road have to make sure that:

- the carriage is completed within a reasonable length of time;
- any trailer containing Class 1 goods is not detached from its vehicle except in a suitable safe and secure place/parking area, or in an emergency;
- the goods are delivered to the consignee, consignee's agent or an authorised person who can take



custody of the explosives and keep them in a safe and secure place until forwarding them;

- if there are compelling reasons not to accept the goods (ADR 1.4.2.3), the consignee makes arrangement for the goods to be delivered to an alternative safe and secure place.

The carrier, driver and any attendant of a vehicle carrying Class 1 goods by road have to make sure that Class 1 goods intended to be delivered to a particular place are unloaded as soon as practically possible after arrival.

### ***Take security precautions when carrying Class 1 by road***

Security for carriage of Class 1	Regulations 48, 50	---
All, carrier, consignor, driver, crew		

Anyone involved with carrying Class 1 goods by road has to take all reasonable steps to make sure that unauthorised access to the goods is prevented. In addition:

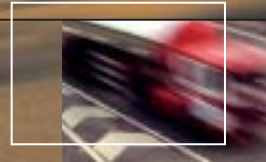
- the consignor and carrier have to make sure that the transport unit is suitable for the security of the Class 1 goods being carried;
- the driver and vehicle crew have to make sure, in the event of any accident or emergency, that all proper precautions are taken for the security of the goods;
- if any accident or emergency occurs which cannot be controlled immediately, the driver and any attendant have to inform the carrier by the quickest possible means and the carrier has to inform HSE by the quickest possible means; and
- the carrier and driver of a transport unit carrying more than 5 tonnes of Class 1 Division 1 goods have to make sure that the route has been agreed with the chief officer of police for the relevant areas.

### ***Only carry certain Class 1 goods on public transport***

Carriage of Class 1 in vehicles used to carry passengers for hire or reward	Regulation 51	---
All		

Up to 2 kg (net mass) of one or more of specific Class 1 articles or substances (eg small arms ammunition, gunpowder smokeless powder railway fog signals, fireworks) may be carried on vehicles used to carry passengers for hire or reward provided:





- the goods are kept with the person carrying them;
- they are properly packed; and
- the person carrying them must take all reasonable precautions to prevent accidents arising from them.

*Take security precautions when carrying Class 1 goods in a private motor vehicle*

Carriage of Class 1 by road in private motor vehicles	Regulation 52	---
All		

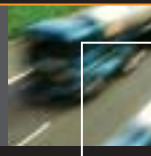
Anyone carrying Class 1 goods in a private motor vehicle not being used for hire or reward has to make sure that the goods are separated from anyone in the vehicle by being kept in a suitable container or separate load compartment.



## ■ REFERENCES

- 1 *The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004* SI 2004/568 The Stationery Office 2004
  - 2 Commission Directive 2003/28/EC of 7 April 2003 adapting for the fourth time to technical progress Council Directive 94/55/EC of 21 November 1994 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road. Available online at <http://www.unece.org/trans/danger/publi/adr/adr2003/ContentsE.html>
- NB While some of the files are large, it is usually possible to download smaller files containing groups of individual Chapters. Amendments to ADR have not been incorporated into the text.
- 3 Commission Directive 2003/29/EC of 7 April 2003 adapting for the fourth time to technical progress Council Directive 96/49/EC of 23 July 1996 on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail
  - 4 Council Directive 1999/36/EC of 29 April 1999 on transportable pressure equipment
  - 5 Listed in Schedule 13 of *The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004*
  - 6 *The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995* SI 1995/3163 The Stationery Office 1995 ISBN 0 11 053751
  - 7 Multilateral Agreement M90 available online at [http://www.unece.org/trans/danger/multi/agree.wpf/m0090\\_e.htm](http://www.unece.org/trans/danger/multi/agree.wpf/m0090_e.htm)

## Further information



Until 30 June 2004, this leaflet will be available from HSE Books,  
PO Box 1999, Sudbury, Suffolk CO10 2WA  
Tel: 01787 881165 Fax: 01787 313995 Website: [www.hsebooks.co.uk](http://www.hsebooks.co.uk)

From 1 July 2004 it will be available from the Department for Transport (DfT). DfT priced and free publications are available from DfT Publications, PO Box 236, Wetherby, West Yorkshire LS23 7NB. Tel 0870 1226 236; Fax 0870 1226 237. Email [dft@twoten.press.net](mailto:dft@twoten.press.net). Web [www.publications.dft.gov.uk](http://www.publications.dft.gov.uk)

---

**This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.**

---

This leaflet is available in priced packs of four for £5 from DfT Publications  
ISBN 1-904763-47-2.

Single free copies are also available from DfT Publications. For these please quote the product code 04DFT01.

© *Crown copyright 2004*. This publication may be freely reproduced, except for advertising, endorsement or commercial purposes. Please acknowledge the source as Department for Transport. First published 2004.