



ADR

Carriage of Dangerous Goods by Road A Guide For Business



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1. Introduction and definitions

This guidance is aimed at businesses that are involved in the consignment, loading/unloading and carriage of dangerous goods by road.

Dangerous goods are substances and articles which have been identified as hazardous for transport and present a risk to people, property and the environment.

For many businesses the extent of their involvement with dangerous goods is limited. As the legislation provides many exemptions, particularly for such businesses and therefore reduced obligations in many cases, this guide includes a number of worked examples in Section 20 in order to help you to quickly identify what provisions may or may not apply specifically to you.

For businesses small or large that handle significant quantities of dangerous goods by road there is a legal obligation to appoint a dangerous goods safety adviser (DGSA) i.e. a competent person able to advise on the safe transport of dangerous goods nationally and internationally. This guidance does not exclude this group, but is primarily geared towards businesses that operate **below the threshold** where a DGSA is legally required and therefore may not have immediate access to a DGSA. In these circumstances you may still require a DGSA from time to time and this guidance is not intended to replace that expertise. It is intended to allow you to be better informed in the decisions you make in the process of ensuring you are compliant with current legislation, and in controlling risk when handling dangerous goods.

This guide has been arranged to provide a comprehensive summary of the legal provisions of the **ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road**. The ADR is a technical document which provides detailed provisions specified in legislation.

In instances where more detail is required, reference can be made to the ADR (ensure to reference the current edition), which is free to access and download at:

http://www.unece.org/trans/danger/publi/adr/adr_e.html

In order to understand the level of activity at which you may be required by law to appoint a DGSA, the HSA has produced guidance which explains this aspect specifically, available for down-load free on the HSA website: [Health and Safety Authority - ADR Landing Page](#)

Whether or not your company requires the services of a DGSA, if your business activities include the carriage, loading/unloading or consignment of any quantity of dangerous goods, **it is recommended that you use the table in Appendix 1** to assess your activities. Such self-assessment will assist you in monitoring compliance with the legislation, and will give you greater confidence in your efforts to control risk.

Where further advice, explanation or guidance is necessary you may contact the Health and Safety Authority or a DGSA.

Definitions

Terms used in this guidance have the same meaning as they have in ADR and current national legislation concerning the carriage of dangerous goods by road.

In this guidance:

- "ADR" means the European Agreement Concerning the International Carriage of Dangerous Goods by Road (detailed provisions re-issued every two years by the United Nations Economic Commission for Europe)
- "DGSA" means Dangerous Goods Safety Adviser (road)
- "HSA" means the Health and Safety Authority
- "IMDG Code" is the International Maritime Dangerous Goods Code
- "ICAO" is the Irish Civil Aviation Authority
- "RID" means the regulations concerning the international carriage of dangerous goods by rail
- "MEGC" is a multiple-element gas container
- "MEMU" is a mobile explosives manufacturing unit
- "NRA" is the National Roads Authority
- "Participant" means any person or enterprise involved in the carriage of dangerous goods by road including any person involved in the activity of loading, unloading, packing and filling and includes consignor, carrier, consignee, driver, vehicle crew, DGSA or any person with a duty under the regulations
- "Placard" a placard is the term used to describe large hazard labels when used on vehicles/tanks
- "Tank" means a shell including its service and structural equipment. When used alone the term tank means tank container, portable tank, demountable tank, fixed tank and tanks forming elements of a battery- vehicle or MEGC.
- "Transport equipment" includes vehicles, tanks, tank containers, portable tanks, demountable tanks, tank swap bodies, tube trailers, bulk containers, intermediate bulk containers, containers, packaging, packages, receptacles and aerosols and any other item used or intended for use in the carriage of dangerous goods by road.

2. Road transport legislation and other modes of transport

2.1 The Law

Legislation governing the carriage of dangerous goods by road, nationally, throughout Europe and adopted by 46 countries worldwide, is based on the *ADR*. This agreement has been in place for over 50 years, and is amended every two years.

In Ireland the ADR is given effect by national legislation which is frequently amended to keep in line with each edition of the ADR. Current regulations can be obtained from the HSA ADR web pages (link provided in Section 21).

National legislation provides for general participant duties and the practical safe transport of dangerous goods, competent authorities, powers of enforcement, offences and penalties. For transport that is confined to the State, the regulations have "National Transport Exemptions" which provide an alternative to ADR when transporting dangerous goods within Ireland.

The regulations refer to the ADR, which provides the detail on all aspects of dangerous goods transport, from design and construction of road tankers to training requirements of individuals. By reference to the ADR, the regulations specify duty holders (participants) and responsibilities that will be detailed in this guidance.

2.2 Other Modes of Transport

This guidance is only concerned with the carriage of dangerous goods by road, i.e. ADR. Other modes of transport such as air, sea and rail are also governed by international rules and national legislation. When engaging in any dangerous goods transport which crosses between different modes of transport you must seek out advice from a competent person specialising in multi modal transport. DGSA's, who are competent in providing advice on the safe transport of dangerous goods by road may also be trained in relation to other modes of transport, but be sure to ask in what other areas their competency is in.

International modal transport rules:

Air	-	ICAO Technical Instructions
Sea	-	IMDG Code
Rail	-	RID

All similar to ADR but with some specific modal requirements
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3. General safety measures and the main duty holders

The law in relation to the carriage of dangerous goods by road sets out duty holders/participants with responsibilities. The participants with specific legal duties are the consignor, carrier, driver and vehicle crew, packer, filler, loader, unloader, tank container/portable tank operator, consignee and the dangerous goods safety advisor (DGSA). The specific responsibilities of each participant with legal duties are outlined in subsections 3.2 to 3.10 and in Section 4.

There are generally several participants/duty holders in a particular transport chain. A person or company can be one, or may assume the responsibility of several duty holders depending on the activity. For example, a printing ink company, mixing/producing flammable inks is a producer or manufacturer of the ink products. This means that when the dangerous goods are handed over for transportation to a customer, the ink company is the "consignor". If they also employ a driver and use a company lorry, then they are also a "carrier" and the employee is the "driver". These participant responsibilities may equally be carried out by different companies, e.g. the ink company handing product to a courier, who then takes on the responsibility of "carrier".

If any duty holder acts on behalf of a third party, a clear **contract of carriage**, outlining all transfers of duties under the legislation, should be agreed to and signed by all parties involved.

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3.1 General safety measures

Addressing all participants, ADR states:

"The participants in the carriage of dangerous goods shall take appropriate measures according to the nature and the extent of foreseeable dangers, so as to avoid damage or injury and, if necessary, to minimize their effects. They shall, in all events, comply with the requirements of ADR in their respective fields."

"When there is an immediate risk that public safety may be jeopardized, the participants shall immediately notify the emergency services and shall make available to them the information they require to take action."

This general provision means that all participants must ensure to take all necessary actions to reduce the risk of an incident involving dangerous goods.

In general, a participant must:

- Ensure that a person employed by him or her, and whose duties concern the carriage of dangerous goods, has received the appropriate training
- Keep records of such training
- Comply with specified legal duties
- Take appropriate measures to avoid damage or injury
- Notify emergency services of an immediate risk to public safety

3.2 Consignor

The consignor is the enterprise handing over/has control of the dangerous goods prior to transport and may act either on its own behalf or for a third party (if transport is carried out under a contract of carriage then consignor means the consignor according to the contract) e.g. a manufacturer, supplier, forwarding warehouse etc.



The consignor must have a place of business in the State. If no person in the state satisfies this requirement, the consignee (customer) of the goods assumes the duties of the consignor.

When the consignor acts on behalf of a third party, the latter shall inform the consignor in writing that dangerous goods are involved and make

available to him all the information and documents he needs to perform his obligations.

The consignor shall in particular:

- (a) Ascertain that the dangerous goods are classified (see Section 7) and authorized for carriage in accordance with ADR;
- (b) Furnish the carrier with information and data and, if necessary, the required transport documents (see Section 14) and accompanying documents (authorizations, approvals, notifications, certificates, etc.). The consignor must ensure to inform a carrier in advance, the nature of the dangerous goods to be picked up and when a driver arrives on site, ensure to provide all necessary documentation;
- (c) Use only packagings, large packagings, intermediate bulk containers (IBCs) and tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks and tank-containers) approved for and suited to the carriage of the substances concerned and bearing the markings prescribed by ADR (further information in Sections 8 - 11);
- (d) Comply with the requirements on the means of dispatch and on forwarding restrictions (refer to Sections 8 - 13);
- (e) Ensure that even empty uncleaned and not degassed tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks and tank-containers) or empty uncleaned vehicles and large and small bulk containers are appropriately marked and labelled and that empty uncleaned tanks are closed and present the same degree of leakproofness as if they were full;
- (f) Comply with security measures as appropriate (see Section 16);
- (g) On handing dangerous goods over to a driver, the consignor must ensure the driver is carrying an appropriate driver training certificate and photo identification;
- (h) ensure emergency procedures are in place (see Section 17);
- (i) ensure all employees are appropriately trained in advance of work involving dangerous goods (see Section 6).

If the consignor uses the services of other participants (packer, loader, filler, etc.), he shall take appropriate measures to ensure that the consignment meets the requirements of ADR. He may, however, in the case of (a), (b), (c) and (e), rely on the information and data made available to him by other participants.

3.3 Carrier

The carrier is the enterprise performing the actual carriage of dangerous goods in or on a vehicle (with or without a transport contract), e.g. logistics company, courier, vehicle owner/operator (who may also be the consignor or driver, as a self-employed vehicle owner/operator).



The Carrier shall in particular:

- (a) Ascertain that the dangerous goods to be carried are authorized for carriage in accordance with ADR (by means of confirmation from the consignor, or otherwise);
- (b) Ascertain that all information prescribed in ADR related to the dangerous goods to be carried has been provided by the consignor before carriage (see Section 14), that the prescribed documentation is on board the transport unit or if electronic data processing (EDP) or electronic data interchange (EDI) techniques are used instead of paper documentation, that data is available during transport in a manner at least equivalent to that of paper documentation;
- (c) Ascertain visually that the vehicles and loads have no obvious defects, leakages or cracks, missing equipment, etc. Ensure this is carried out by putting in place a monitoring/audit procedure to assess vehicles and equipment;
- (d) Ascertain that the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired (see Section 15). As in (c) above, build inspection checks into regular monitoring/audit function;
- (e) Verify that the vehicles are not overloaded;
- (f) Ascertain that the danger labels and markings prescribed for the vehicles have been affixed (see Sections 9 - 11);
- (g) Ascertain that the equipment prescribed in the written instructions for the driver is on board the vehicle (see Section 12). This must also take account of fire extinguisher requirements;
- (h) Comply with security measures as appropriate (see Section 16);
- (i) Ensure emergency procedures are in place (see Section 17);
- (j) Ensure both driver and crew are suitably trained in advance of any work involving dangerous goods. Drivers must also hold an appropriate driver training certificate (see Section 6).

Where appropriate, this shall be done on the basis of information provided by transport documents and accompanying documents, by a visual inspection of the vehicle or the containers and, where appropriate, the load. Documented procedures including periodic audits will ensure the vehicle and other transport equipment are in a suitable condition for use.

The carrier may, however, in the case of (a), (b), (e) and (f), rely on information and data made available to him by other participants e.g. consignor, loader, packer or filler.

If the carrier observes an infringement of the requirements of ADR, he shall not forward the consignment until the matter has been rectified.

If during the journey, an infringement which could jeopardize the safety of the operation is observed, the consignment shall be halted as soon as possible, bearing in mind the requirements of traffic safety, of the safe immobilisation of the consignment, and of public safety. The transport operation may only be continued once the consignment complies with applicable regulations.

3.4 Driver and vehicle crew

The driver is the participant who is in immediate control of the vehicle and fulfils the driving function. Crew members also have responsibilities and all crew members must have appropriate training in line with their duties and responsibilities. Note that if any crew member also drives the vehicle they must hold an appropriate driver training certificate.



Drivers and crew members shall in particular:

- (a) Ensure to carry on their person their ADR driver training certificate (drivers) and photo i.d. (all crew members);
- (b) Crew members must read and understand transport documentation provided in advance of any transport operation. If an issue should arise with the documentation the crew member must raise and rectify any matter prior to driving the vehicle;
- (c) Keep readily available in the cab the emergency instructions in writing;
- (d) Check to ensure all vehicle safety equipment and PPE is provided and raise immediately any deficiency or missing items with the carrier;

- (e) Check and ensure the vehicle is properly plated, placarded and marked. Ensure orange plates, placards and marks are kept clean. When not required ensure to remove or cover plates, placards and marks.
- (f) Do not load damaged or leaking packages.
- (g) Do not drive a vehicle you suspect is not in compliance with national legislation or the ADR. Raise and rectify any issues prior to driving the vehicle;
- (h) Apart from members of the vehicle crew, no passengers may be carried in transport units carrying dangerous goods;
- (i) Members of the vehicle crew shall know how to use the fire-fighting extinguishers;
- (j) Crew members may not open a package containing dangerous goods;
- (k) Any torch or lighting apparatus used shall not exhibit any metal surface liable to produce sparks;
- (l) Smoking shall be prohibited during handling operations in the vicinity of vehicles and inside the vehicles;
- (m) The engine shall be shut off during loading and unloading operations, except where the engine has to be used to drive the pumps or other appliances for loading or unloading the vehicle and the laws of the country in which the vehicle is operating permit such use;
- (n) No vehicles carrying dangerous goods may be parked without the parking brakes being applied. Trailers without braking devices shall be restrained from moving by applying at least one wheel chock;
- (o) In the case of a transport unit equipped with an anti-lock braking system, consisting of a motor vehicle and trailer, the electrical connections shall be connecting the towing vehicle and the trailer at all times during carriage;
- (p) If responsible for tank filling or emptying, as may be appropriate e.g. for flammable liquids, ensure that there is a good electrical connection to the earth prior to the emptying or filling operation (see also Section 3.6);
- (q) Ensure no dangerous residues of the filling substance adheres to the outside of tanks filled or emptied (see also Section 3.6);
- (r) If involved in the loading operation, initially or during the transport operation, dangerous goods must be properly secured to the vehicle. If released to unload part of the shipment, remaining dangerous goods must be re-secured to the vehicle (see Section 13);
- (s) Driver to ensure vehicle supervision provisions are adhered to (see Section 13.3).

3.5 Packer

The packer is the participant, an individual or business, who is responsible for the final packaging of dangerous goods prior to transport.



The packer shall in particular:

- (a) Comply with requirements concerning packing provisions, or mixed packing provisions – these requirements vary and may require input from a DGSA (please refer also to Sections 13.2 and 13.3); and
- (b) When preparing packages for carriage, comply with the requirements concerning marking and labelling of the packages (see Section 8).

3.6 Filler

The filler is the participant, an individual or business, who is responsible for filling tanks or containers (for carriage in bulk) with dangerous goods prior to transport.

The filler shall in particular:

- (a) Ascertain prior to the filling of tanks that both they and their equipment are technically in a satisfactory condition;
- (b) Ascertain that the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;
- (c) Only fill tanks with the dangerous goods authorized for carriage in those tanks;
- (d) In filling the tank, comply with the requirements concerning dangerous goods in adjoining compartments;
- (e) During the filling of the tank, observe the maximum permissible degree of filling or the maximum permissible mass of contents per litre of capacity for the substance being filled;
- (f) After filling the tank, check the leakproofness of the closing devices;
- (g) Ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him;
- (h) In preparing the dangerous goods for carriage, ensure that the orange plates and placards or labels prescribed are affixed on the

tanks, on the vehicles and on the large and small containers for carriage in bulk in accordance with the requirements;

- (i) When filling vehicles or containers with dangerous goods in bulk, ascertain that the relevant provisions of ADR Chapter 7.3 (Bulk Provisions) are complied with.

3.7 Loader

The loader is the participant, an individual or business, who is responsible for loading dangerous goods onto a vehicle prior to transport.



The loader shall in particular:

- (a) Hand the dangerous goods over to the carrier only if they are authorized for carriage in accordance with ADR;
- (b) When handing over for carriage packed dangerous goods or uncleaned empty packagings, check whether the packaging is damaged. He shall not hand over a package the packaging of which is damaged, especially if it is not leakproof, and there are leakages or the possibility of leakages of the dangerous substance, until the damage has been repaired;
- (c) When loading dangerous goods in a vehicle, or a large or small container, comply with the special requirements concerning loading and handling, ADR 7.5.11;
- (d) After loading dangerous goods into a container comply with the requirements concerning danger markings conforming to ADR Chapter 5.3 (see Section 9);
- (e) When loading packages, comply with the prohibitions on mixed loading taking into account dangerous goods already in the vehicle or large container and requirements concerning the separation of foodstuffs, other articles of consumption or animal feedstuffs, ADR 7.5.

The loader may, however, in the case of (a), (d) and (e), rely on information and data made available to him by other participants.

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3.8 Tank-container/portable tank operator

The tank-container/portable tank operator is the participant, an individual or business, who is responsible for the operation of a tank-container/portable tank. The tank-container/portable tank operator shall in particular:

- (a) Ensure compliance with the requirements for construction, equipment, tests and marking;
- (b) Ensure that the maintenance of shells and their equipment is carried out in such a way as to ensure that, under normal operating conditions, the tank-container/portable tank satisfies the requirements of ADR until the next inspection;
- (c) Have an exceptional check made when the safety of the shell or its equipment is liable to be impaired by a repair, an alteration or an accident.

3.9 Unloader

The unloader is the participant, an individual or business, who is responsible for the removal of dangerous goods from a vehicle, or the unloading or discharge of dangerous goods from a tank, container or vehicle.

The unloader shall in particular:

- (a) Ascertain that the correct goods are unloaded by comparing the relevant information on the transport document with the information on the package, container, tank, MEMU, MEGC or vehicle;
- (b) Before and during unloading, check whether the packagings, the tank, the vehicle or container have been damaged to an extent which would endanger the unloading operation. If this is the case, ascertain that unloading is not carried out until appropriate measures have been taken;
- (c) Comply with all relevant requirements concerning unloading;
- (d) Immediately following the unloading of the tank, vehicle or container:
 - (i) Remove any dangerous residues which have adhered to the outside of the tank, vehicle or container during the process of unloading; and
 - (ii) Ensure the closure of valves and inspection openings;
- (e) Ensure that the prescribed cleaning and decontamination of the vehicles or containers is carried out; and
- (f) Ensure that the containers once completely unloaded, cleaned and decontaminated, no longer display danger markings conforming to Chapter 5.3.
- (g) If the unloader makes use of the services of other participants (cleaner, decontamination facility, etc.) he shall take appropriate measures to ensure that the requirements of ADR have been complied with.

3.10 Consignee (customer or recipient)

The consignee is the participant who takes charge of the dangerous goods on arrival.



The consignee has the following obligations;

- (a) Not to defer acceptance of the goods without compelling reasons and to verify, after unloading, that the requirements of ADR concerning him have been complied with;
- (b) If, in the case of a container, this verification brings to light an infringement of the requirements of ADR, the consignee shall return the container to the carrier only after the infringement has been remedied; and
- (c) If the consignee makes use of the services of other participants (unloader, cleaner, decontamination facility, etc.) he shall take appropriate measures to ensure that the requirements (a) and (b) have been complied with.

4. Dangerous goods safety advisers (DGSA)

Businesses, whose activities include the consignment, carriage or the related packing, loading, filling or unloading, of dangerous goods must appoint one or more safety advisers. The only duty holders that this obligation applies to, however, are consignors and carriers. For example, a company which only loads and unloads does not need to appoint a DGSA.

The role of the safety adviser is to help control the risks inherent in such activities with regard to persons, property and the environment. DGSA's generally complete training (not mandatory), but must be successful in passing specified exam(s) to gain the qualification, which must be renewed every five years.

There are exemptions provided so that businesses with limited exposure to these activities are not required to formally appoint a DGSA. These businesses, however, may still require support from a DGSA from time to time. To assess whether you are required to appoint a DGSA, refer to guidance on the HSA website: [Health and Safety Authority - ADR Landing Page](#)

A formally appointed DGSA may be an employee, the head of the business or an external consultant. The DGSA must be suitably qualified and have access to all relevant aspects of the business to carry out this function.

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The main duties of a DGSA are as follows:

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

5. Exemptions

ADR and national regulations both specify exemptions; ADR in respect of national and international operations and national regulations in respect of national transport only. Some exemptions remove the legal burden completely for some activities while others provide alternative less onerous requirements for transport.

For worked examples of some of the following exemptions, see Section 20.

5.1 **ADR exemptions** – the following activities are exempt and therefore not subject to the ADR or national regulations:

- (a) The carriage of dangerous goods by private individuals where the goods in question are packaged for retail sale and are intended for personal or domestic use, leisure or sporting activities. When carrying flammable liquids in refillable receptacles, the total quantity cannot exceed 60 litres per receptacle or 240 litres per transport unit;
- (b) The carriage of **machinery or equipment** not specified in ADR (you may need confirmation from a DGSA) and which happen to contain dangerous goods in their internal or operational equipment, provided that measures have been taken to prevent any leakage of contents in normal conditions of carriage, e.g. transporting old fridges which contain refrigerant gases;
- (c) The carriage undertaken by enterprises which is **ancillary to their main activity**, such as deliveries to or returns from building or civil engineering sites, or in relation to surveying, repairs and maintenance, in quantities of not more than 450 litres per packaging and within the maximum quantities specified in ADR Subsection 1.1.3.6 (small load exemptions, Section 5.2). Measures shall be taken to prevent any leakage of contents in normal conditions of carriage. These exemptions do not apply to Class 7 (radioactive materials).

Examples

- carriage of small quantities of fuel in drums for use in machinery on a building site, road works or maintenance work
- carriage of oxygen and acetylene for welding /maintenance /repair work
- carriage of flammable paints and varnish by a painter

In all cases the materials are required by and typically, for immediate use by the driver and or vehicle crew.

Note: For practical example see Section 20, Example 1.

Note however that carriage undertaken by such enterprises for their supply or external or internal distribution does not fall within the scope of this exemption and therefore you may be subject to other provisions of the regulations and ADR.

(d) The carriage of **uncleaned empty static storage vessels** which have contained

- gases of Class 2, groups A (asphyxiant), O (oxidising) or F (flammable),
- substances of Class 3, flammable liquids or Class 9, miscellaneous dangerous substances belonging to packing group II or III (e.g. environmentally hazardous substances), or
- pesticides of Class 6.1, toxic substances belonging to packing group II or III, subject to the following conditions:
 - All openings with the exception of pressure relief devices (when fitted) are hermetically closed;
 - Measures have been taken to prevent any leakage of contents in normal conditions of carriage; and
 - The load is fixed in cradles or crates or other handling devices or to the vehicle or container in such a way that they will not become loose or shift during normal conditions of carriage.

This exemption does not apply to static storage vessels which have contained desensitized explosives or substances the carriage of which is prohibited by ADR.

(e) **Carriage of gases**

- Gases contained in the tanks of a vehicle, performing a transport operation and destined for its propulsion or for the operation of any of its equipment (e.g. refrigerating equipment);
- Gases contained in the fuel tanks of vehicles transported. The fuel cock between gas tank and engine shall be closed and the electric contact open;
- Gases of Groups A and O (according to ADR 2.2.2.1), if the pressure of the gas in the receptacle or tank at a temperature of 20 °C does not exceed 200 kPa (2 bar) and if the gas is not a liquefied or a refrigerated liquefied gas. This includes every kind of receptacle or tank, e.g. also parts of machinery and apparatus;
- Gases contained in the equipment used for the operation of the vehicle (e.g. fire extinguishers), including in spare parts (e.g. inflated pneumatic tyres); this exemption also applies to inflated pneumatic tyres carried as a load;
- Gases contained in the special equipment of vehicles and necessary for the operation of this special equipment during transport (cooling systems, fish-tanks, heaters, etc.) as well as spare receptacles for such equipment or uncleaned empty exchange receptacles, transported in the same transport unit;
- Gases contained in foodstuffs (except UN 1950 aerosols), including carbonated beverages;

- Gases contained in balls intended for use in sports; and
- Gases contained in light bulbs provided they are packaged so that the projectile effects of any rupture of the bulb will be contained within the package.

(f) **Carriage of liquid fuels**

- Fuel contained in the tanks of a vehicle performing a transport operation and destined for its propulsion or for the operation of any of its equipment.
- The fuel may be carried in fixed fuel tanks, directly connected to the vehicle's engine and/or auxiliary equipment, which comply with the pertinent legal provisions, or may be carried in portable fuel containers (such as jerricans).
- The total capacity of the fixed tanks shall not exceed 1500 litres per transport unit and the capacity of a tank fitted to a trailer shall not exceed 500 litres. A maximum of 60 litres per transport unit may be carried in portable fuel containers. These restrictions shall not apply to vehicles operated by the emergency services;
- Fuel contained in the tanks of vehicles or of other means of conveyance (such as boats) which are carried as a load, where it is destined for their propulsion or the operation of any of their equipment. Any fuel cocks between the engine or equipment and the fuel tank shall be closed during carriage unless it is essential for the equipment to remain operational. Where appropriate, the vehicles or **other means of conveyance shall be loaded upright and secured** against falling.

5.2 Small Load (packages) Exemptions (ADR 1.1.3.6)

The "small load" exemption allows you to carry up to a specified amount of dangerous goods with minimal requirements being imposed. Interpretation and calculations under this exemption may require verification by a DGSA.

Refer to the table in **Appendix 2** for small load limit quantities. For the purposes of this exemption, dangerous goods are assigned to transport categories 0, 1, 2, 3 or 4, as indicated in column 1.

- (a) Where the quantity of dangerous goods carried on a transport unit does not exceed the values indicated in column 3, i.e. when **individual goods or goods of the same transport category** are carried together, the exemption applies.

e.g. (Taken from table in appendix 2) - For Class 2 aerosols, group F (flammable aerosols), 333 litres may be carried under the exemption when no other dangerous goods are carried.

- (b) When carrying goods of **different transport categories** in the same transport unit, the exemption applies if the sum of goods carried does not exceed "1000", but each category must also be multiplied by the

appropriate multiplying factor before adding each category together (refer to Table 1 for multiplying factors):

Table 1. Multiplying factors for application of small load exemption

Transport Category	Multiplying Factor
1	50
1 ^a	20
2	3
3	1
Sum of dangerous goods must not exceed 1000	

^a For UN Nos. 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017

Packaged goods may be carried under this exemption **without application** of the following provisions:

- Security provisions (see section 16)
- Placarding and marking (i.e. vehicles do not require orange plates and containers do not require placards)
- Instructions in writing
- Packing provisions are reduced
- Restrictions in public places are reduced
- Fewer requirements for vehicle crews, equipment, operation and documentation (except for those listed in Table Z below which still apply)
- Vehicle certification
- Driver training certification

Requirements that **still apply** when availing of small load exemption are:

(This is a summary – for full details ref to ADR 1.1.3.6.2):

- Transport document must be carried in the vehicle
- Vehicle must be equipped with a suitable 2Kg fire extinguisher
- Driver and crew must have received appropriate general training
- Driver and crew must not open dangerous goods packages
- No smoking during handling in or around the vehicle

- Any torch carried must be non-sparking

The table in Appendix 2 can be used if you know the transport category of the substance. If the transport category is not known, the UN number/class/packing group can be used to establish the transport category which is provided in Column 15 of Table A in Chapter 3.2 of the ADR.

Such information may be obtained from Safety Data Sheets, which should be provided with all hazardous chemicals (Section 14 of a standard SDS provides information in relation to the transport of hazardous chemicals). An information sheet in relation to Safety Data Sheets is available on the HSA website:

[Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)

Note: For practical examples see Section 20, Examples 2, 3 and 4.

5.3 National exemptions (National Regulations)

The national regulations specify additional 'national' exemptions for carriage of dangerous goods only within the state.

Some of these exemptions deal with older vehicles and tanks (pre 2002 for vehicles and pre 2003 for tanks) regarding certification. These issues can be complex, so if in any doubt you should seek advice from a DGSA.

In addition some of the most widely used exemptions/derogations are as follows:

- The regulations do not apply where a vehicle is being used to transfer dangerous goods between private premises and another vehicle in the immediate vicinity of those premises or between adjacent premises owned by the same person even if separated by a public road.
- Kerosene, diesel and LPG fuel deliveries to the end user need not have the customer details on the transport document.
- When carrying empty uncleaned tanks the last load transport document may be used. Strike out the full load quantity and write "EMPTY UNCLEANED RETURN" (ADR also provides for this situation)
- Regulations for transport do not apply to gases used for dispensing beverages when carried together on the same vehicle.

National provisions are detailed in current carriage of dangerous goods legislation available from the HSA web site.

5.4 Limited quantities (ADR 3.4)

Limited quantity exemptions are applicable to the carriage of dangerous goods of certain classes packed in specified small packaged quantities – around 5 Kg or 5 L maximum per inner package, but frequently smaller limits are set. Each inner package must be placed in suitable outer packagings with a gross mass limit of 30kg (inner packages and outer packaging total weight not to exceed 30 Kg). Shrink wrapped trays may also be used as outer packagings, but a package limit of 20Kg is imposed.

When the provisions of this exemption are met, although the dangerous goods are contained in individual small packages and grouped in units up to 30Kg, **there is no limit to the total quantity per shipment** that may be carried in

this way; e.g. a 40ft container full of limited quantity goods can benefit from this exemption, unlike the small load exemption (see Section 5.2), which limits the total quantity per shipment.

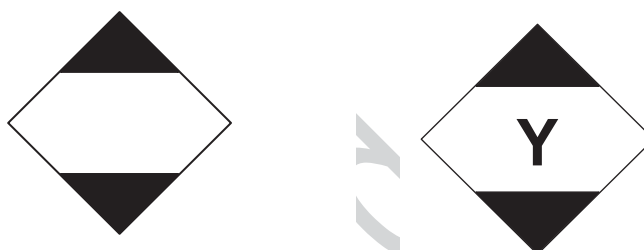
The **packaging specified does not need to be UN approved**, but must be suitable and of good quality

The applicable quantity limit for the inner packaging or article is specified for each substance in ADR Chapter 3.2, Table A, Column (7a). The quantity "0" has been indicated in this column for each entry **not permitted** to be carried in accordance with these provisions.

Packages containing dangerous goods in limited quantities shall bear the marking in Figure 1 for the indicated modes of transport (mark shall be 100mm x 100mm, diamond outline of at least 2mm). When transporting goods in accordance with air requirements and the air mark is applied, this mark is accepted for the other modes of transport.

Fig. 1

Road/Rail/Sea mark



Alternative marks may be used until June 2015 for road transport. Until such date, packages can alternatively bear a white diamond with the UN number(s) of the goods, e.g. "UN1950", or the letters "LQ" in place of the UN numbers (mark dimensions are as detailed above and number or letters to be at least 6mm high), see examples in Figure 2.

Fig.2

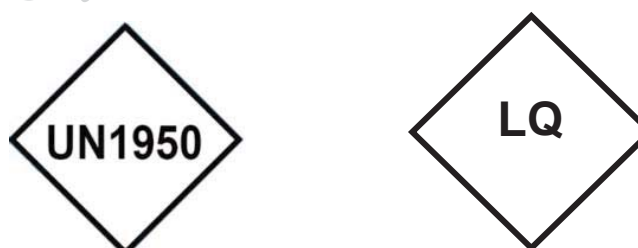


Figure 3 below indicates packaging with a limited quantity mark applied.

Fig. 3



Once packaged and labelled for carriage in accordance with all limited quantity provisions the **main exemptions are:**

- No orange plates required on vehicles
- No vehicle marking for consignments under 8 tonnes (over 8 tonnes vehicle must be marked with same mark as packages front and rear of vehicle – mark dimensions of 250mm x 250mm)
- Drivers are not required to hold an ADR driver training certificate
- No other hazard labels or UN number marking
- No vehicle safety equipment or PPE
- No fire extinguishers
- No instructions in writing
- No transport documents (except for sea shipment where a container packing certificate is required)

Some provisions do still apply, such as the relevant provisions for orientation marks and use of overpacks. Full provisions are set out in ADR 3.4.

Vehicle marking carrying limited quantity packages

Transport units carrying more than 8 ton of limited quantity packages must display the mark indicated in Figure 1 (or Figure 2) in the form of a placard. In advance of carriage, consignors of dangerous goods packed in limited quantities shall inform the carrier in a traceable form of the total gross mass of such goods to be consigned.

For further advice on limited quantities you should consult a DGSA.

Note: For practical example see Section 20, Example 5.

5.5 Excepted quantities

The excepted quantities exemption is similar to the limited quantity exemption but is only for certain dangerous goods in very small quantities.

Once compliant with the basic training requirements, classification procedures and packaging, labelling and quantity limitations, no other provisions apply to the transport of these dangerous goods.

ADR will specify the "E code" for all dangerous goods in Chapter 3.2, Table A, Column 7(b), which allow the quantities for outer and inner packaging as indicated in Table 2.

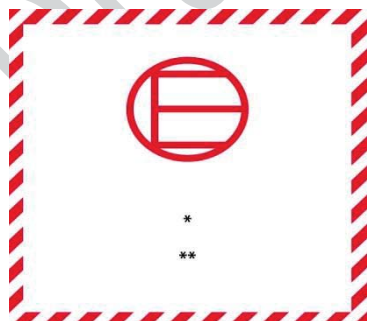
Table 2.

Code	Maximum net quantity per inner packaging (in grams for solids and ml for liquids and gases)	Maximum net quantity per outer packaging (in grams for solids and ml for liquids and gases, or sum of grams and ml in the case of mixed packing)
E0	Not permitted as Excepted Quantity	
E1	30	1000
E2	30	500
E3	30	300
E4	1	500
E5	1	300

Packages must consist of an inner packaging placed in to an intermediate packaging, securely packed with cushioning and then placed in to a suitable rigid strong outer packaging.

Figure 4 indicates the marking of packages containing excepted quantities, the mark being a minimum 100mm x 100mm:

Fig 4.



Excepted quantities mark:

Hatching and symbol of the same colour, black or red, on white or suitable contrasting background

- * The first or only label number indicated in column (5) of Table A of Chapter 3.2 shall be shown in this location.
- ** The name of the consignor or of the consignee shall be shown in this location if not shown elsewhere on the package.

6 Training and Training Records

All persons, whose duties concern the carriage of dangerous goods, shall be trained in the requirements governing the carriage of such goods appropriate to their responsibilities and duties.

Employees shall be trained **before assuming responsibilities**, and such training will be in the areas of general awareness, function specific, safety and security training. Employees shall only perform functions, for which required training has not yet been provided, under the **direct supervision** of a trained person.

Records of all training (including refresher training) received shall be kept by the employer and made available to the employee or the HSA, upon request.

Records, including those for security training, shall be retained by the employer for a period of 1 year after the employee has left the company.

A copy of training records shall be provided to employees.

Training records shall be verified upon commencing new employment.

6.1 General awareness training, function specific, safety and security training

Personnel shall be familiar with the general requirements of the provisions for the carriage of dangerous goods.

Personnel shall be trained, commensurate directly with their duties and responsibilities in the requirements of the regulations concerning the carriage of dangerous goods.

Where the carriage of dangerous goods involves a multimodal transport operation, the personnel shall be aware of the requirements concerning other transport modes.

Commensurate with the degree of risk of injury or exposure arising from an incident involving the carriage of dangerous goods, including loading and unloading, personnel shall be trained in the hazards and dangers presented by dangerous goods.

The training provided shall aim to make personnel aware of the safe handling and emergency response procedures.

Training shall include elements of security awareness, which will address the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach. It shall include awareness of security plans (if appropriate) commensurate with the responsibilities and duties of individuals and their part in implementing security plans.

All training shall be periodically supplemented with refresher training to take account of changes in regulations.

6.2 Driver training and examination

Drivers of vehicles carrying dangerous goods shall hold a training certificate issued by the competent authority or the appointed agent. Drivers must have participated in a training course (mandatory) and passed an examination on the particular requirements that have to be met during carriage of dangerous goods.

In Ireland, drivers passing the driver training examination since April 2011 have been issued with a new style of driver training certificates, in accordance with ADR 2011 (see Fig. 5).

Fig 5.

ADR DRIVER TRAINING CERTIFICATE	
IRL	1. 16946
	2. SURNAME
	3. FORENAME
	4. 04/04/1956
	5. Irish
	6. <i>John Sample</i>
7. HEALTH & SAFETY AUTHORITY	
8. VALID TO: 25/03/2016	

VALID FOR CLASS(ES) OR UN Nos.:	
TANKS	OTHER THAN TANKS
9. 2	10. 2
3	3
4.1,4.2,4.3	4.1,4.2,4.3
5.1,5.2	5.1,5.2
6.1,6.2	6.1,6.2
8	8
9	9

SAMPLE CARD

Prior to this date the Irish driver training certificates were green cards containing similar information, but no photographic identification. Both types are valid until the date indicated. Training certificates may be issued by and are mutually recognised by all ADR contracting parties.

Drivers must undergo refresher training and examination every 5 years. Training is available for basic and specialisation training for tanks, Class 1 (explosive substances) and Class 7 (radioactive substances).

ADR driver training certificates are recognised by all ADR contracting parties.

Information regarding approved training providers and examination of drivers can be obtained from the HSA web site:

[Health and Safety Authority - ADR Landing Page](#)

6.3 DGSA training and examination

DGSA's (see Section 4) must undergo training and examination. Differing from the driver training courses, there are no approved training providers, nor is it mandatory to attend training provided by commercial trainers. It is however left to individuals to self-learn or attend a training course depending on their own situation prior to sitting the mandatory examination.

DGSA's must, if they wish to continue acting as a DGSA, re-sit the exams every 5 years. Certificates are issued by competent authorities (HSA in Ireland) and are recognised throughout all ADR contracting countries.

Details on the examination process are available on the HSA web site:

[Health and Safety Authority - ADR Landing Page](#)

7 Dangerous goods classification

The classification or identification of dangerous goods is the most important step in the transport chain. In order to establish how dangerous goods can be transported safely you must firstly establish what it is you are dealing with, as different dangerous goods require different measures to ensure their safe transport.

For most companies this step is taken care of by the original manufacturer or supplier and classification information can be seen on labels, safety data sheets and transport documentation.

However, if you are producing substances or articles that may pose a danger due to the nature of the substance or article e.g. mixing flammable paints or inks, manufacturing corrosive detergents or producing wastes like asbestos, batteries or industrial effluent, as a **consignor** of dangerous goods you have a legal responsibility to classify such substances or articles for transport.

It is advisable to seek advice from a DGSA when carrying out such classification.

Note that in addition to your duties as consignor outlined above, you may have additional legal responsibilities in relation to the classification of chemicals for **supply and use**.









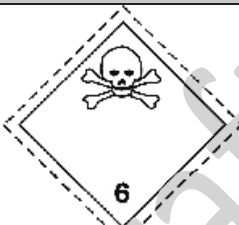
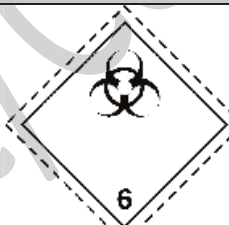

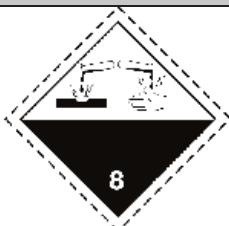
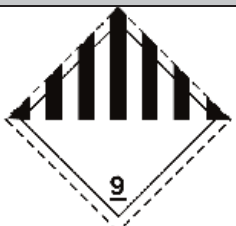
This applies primarily to **manufacturers**. A manufacturer is defined in the [CLP Regulation](#) (regulation on classification, labelling and packaging of substances and mixtures) as 'any natural or legal person established within the Community who manufactures a substance within the Community'. The legal responsibility to classify does not apply to logistics companies, freight forwarders, couriers etc.

Guidance on classification under the CLP Regulation and related legal requirements is provided by the HSA at: [Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)

Principles of classification

ADR provides for the classification of all dangerous goods into one of nine main hazard classification groups, some of which are sub-divided, thus providing a total of thirteen classes as set out in Table 3 with the corresponding class or hazard label:

Table 3.

1. Explosive substances	2. Gases	3. Flammable liquids
		
4.1. Flammable solids	4.2. Substances liable to spontaneous combustion	4.3. Substances when in contact with water emits flammable gases
		
5.1. Oxidising substances	5.2. Organic peroxides	
		
6.1 Toxic	6.2 Infectious	
		
7. Radioactive substances	8. Corrosive substances	9. Miscellaneous
		

The classification criteria for the carriage of dangerous goods by road are provided in the ADR (Part 2, Chapter 2) and where required, further classification criteria are set out in the associated UN Manual of Tests and Criteria. These documents facilitate the classification of any substance, mixture or article, including wastes. The 9 main hazard classes will therefore cover thousands of individual substances

many of which are identified in ADR, or if not individually identified, then by generic group identification. Each individual substance or group of substances is given a unique number known as the “UN” number.

e.g. Petrol is a flammable liquid - “class 3” and is assigned the unique number or “UN number”, UN1203.

Substances are further categorised according to how dangerous they are by designating a “**packing group**” or “**PG**” as indicated in Table 4.

Table 4.

PG I	high danger
PG II	medium danger
PG III	low danger

Petrol is allocated to PGII based on the properties of petrol, i.e. the flash point.

For transport, all dangerous goods must be identified correctly and this information must be presented in a certain way (see “transport documentation” in Section 14.1 of this guidance).

The entry on the transport documentation for petrol is as follows:

“UN1203, Petrol, 3, PGII” (the letters “PG” may be omitted)

For substances that have other dangerous properties, this will be indicated by adding the secondary hazard in to the identification line in brackets after the primary class hazard.

e.g. “UN1230, Methanol, 3(6.1), PGII” – i.e. a class 3, flammable liquid with a secondary hazard, class 6.1, toxic

All substances must be classified prior to transport by road or any other mode of transport. If shipping goods by air, sea, road or rail the appropriate modal classification requirements must be applied and expert advice must be sought.

8 Packaging, marking and hazard labelling

It is the responsibility of the consignor to ensure that packaging, and subsequent marking and labelling of such packaging is appropriate and suitable for the substances, mixtures and articles consigned for carriage by road. It is advisable to seek the **advice of a DGSA** when carrying out this task.

8.1. Packaging and Marking:

The ADR specifies the correct way to package dangerous goods, whether this is in a box, drum or container or when carried in road tankers or other systems of containment. Packaging provides the safeguard for people and the environment during loading, transport and unloading of dangerous goods and must therefore be appropriate for the dangerous goods.

It is the responsibility of the consignor to ensure that packaging is appropriate and suitable for use.

In most cases packaging is "UN approved". This means the package has been tested and approved according to ADR.

Approved packaging will be identified with a series of marks, as indicated in Figures 6, 7 and 8.

Fig. 6

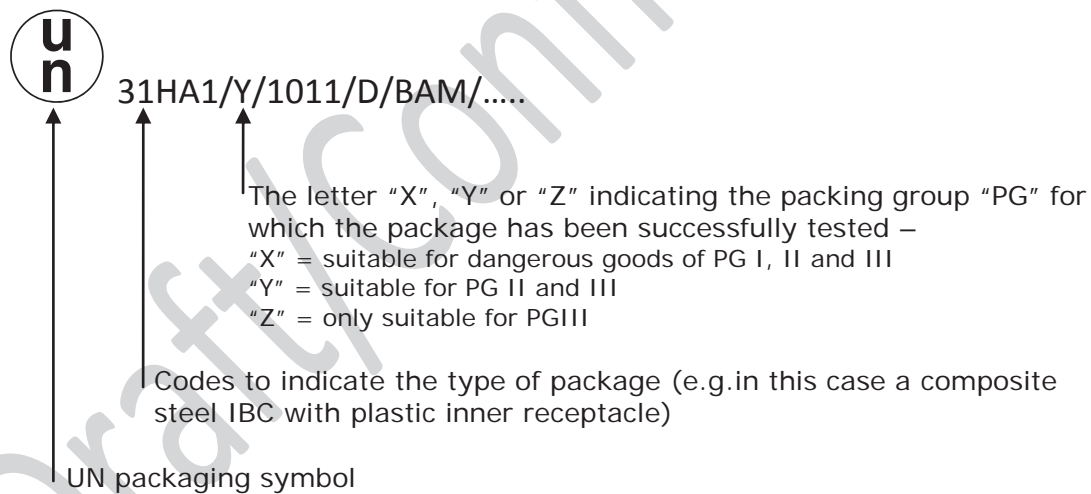


Fig. 7 Example of marking applied to an IBC



When selecting the correct package type, care must be taken to ensure the “packing instruction” in ADR is followed and the package is suitable for the dangerous goods.

Not all packaging, even when tested and approved, is suitable for all dangerous goods – dangerous goods and packaging must be correctly matched.

Fig. 8



8.2 Hazard Labelling

Labelling is applied to dangerous goods packages and provides an instant visual warning to everyone not least those handling the goods and emergency services.



Labels for transport are the hazard/class labels as provided in Table 3 (Section 7). Labels are placed on the outside surface of packages as shown in Figure 9, and must conform to the specification set in ADR (e.g. minimum dimensions of 100mm x 100mm).

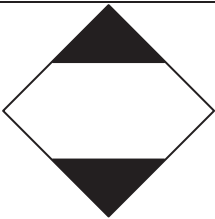

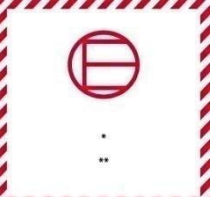
Fig. 9



In addition to the class label(s) applied to packaging ADR specifies the substance UN number must also appear.
Examples of additional marks which may be required on packages for transport are given in Table 5.

Table 5. Additional marks and labels which may be required for carriage:

	Environmentally hazardous substance (EHS) mark
	Orientation arrows for: <ul style="list-style-type: none"> Combination packagings having inner packagings containing liquids; Single packagings fitted with vents; Cryogenic receptacles intended for the carriage of refrigerated liquefied gases
	Elevated temperature substances mark
	Limited quantity marks (usable up to June 2015)

	Limited quantities mark (except for air transport)
	Limited quantities mark for air transport
	Excepted quantities mark

When different dangerous goods are packed together in the same outer packaging, the relevant UN numbers and hazard labels must be shown on the outer packaging.

Labelling under Supply and Use legislation

Note that packages also need to be labelled according to the [CLP Regulation](#) on classification, labelling and packaging of substances and mixtures (2008). Article 33 of this regulation provides for specific rules in relation to labelling of outer packaging, inner packaging and single packaging.

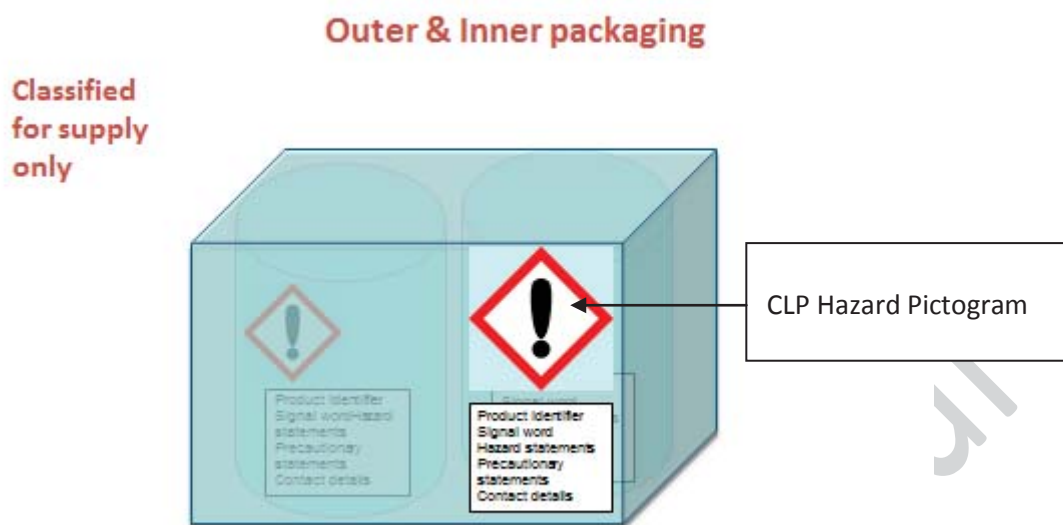
The following points are of note:

- Not all substances and mixtures classified and labelled according to the CLP regulation require classification and labelling under the provisions of ADR, i.e. they are not considered hazardous for transport. Those which do not require classification and labelling under ADR provisions need to display CLP labels on inner **and outer packaging**.

This is an important **new rule** under the 2008 CLP Regulation. Under the older CPL rules, the outer packaging would have been left blank as ADR rules did not apply, and no one was aware that the package contained a hazardous substance or mixture.

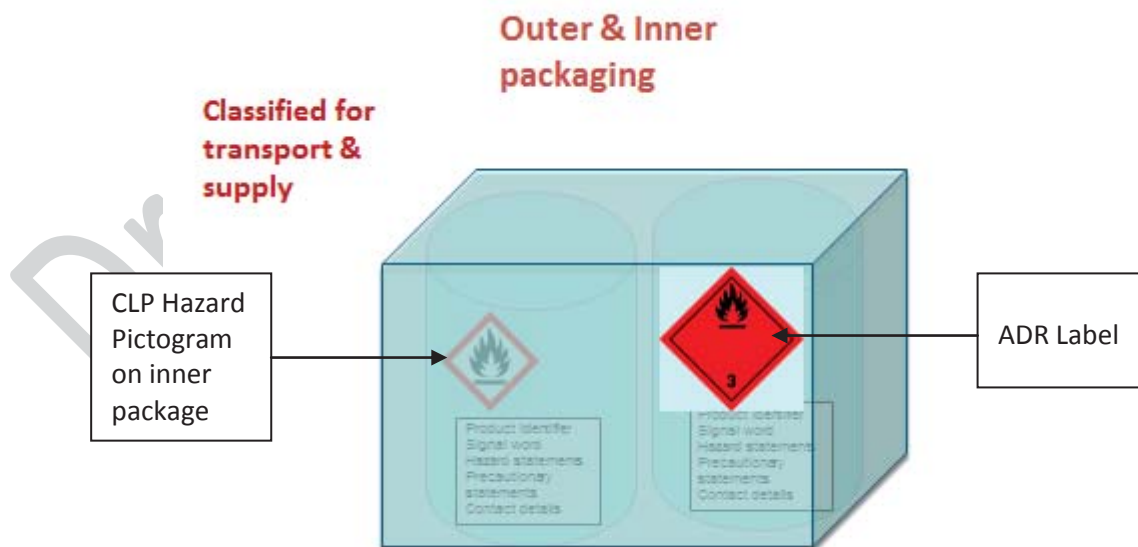
An example of a product which does not require classification or labelling under ADR criteria would be a mixture classified under CLP criteria as being harmful, or causing skin sensitization, and would display the following label as indicated in Figure 10.

Fig. 10



- In cases where labelling is required both by ADR and CLP for the same hazard, and where a package consists of an outer and inner packaging, the outer packaging must display ADR labels. CLP labelling on such outer packing is optional. However, the inner and intermediate packaging must meet the labelling requirements of the CLP regulation, as demonstrated in Figure 11.

Fig. 11



- Single packages (i.e. where there is no inner packaging) require labelling under the provisions of both ADR and CLP. However, where the hazard pictograms for ADR relate to the same hazard, the CLP pictogram(s) need not appear. Figure 12 depicts a single package that is classified for both transport and supply. The CLP

pictogram has been omitted, but the CLP supply label elements are still provided here below the transport pictogram.

Fig. 12

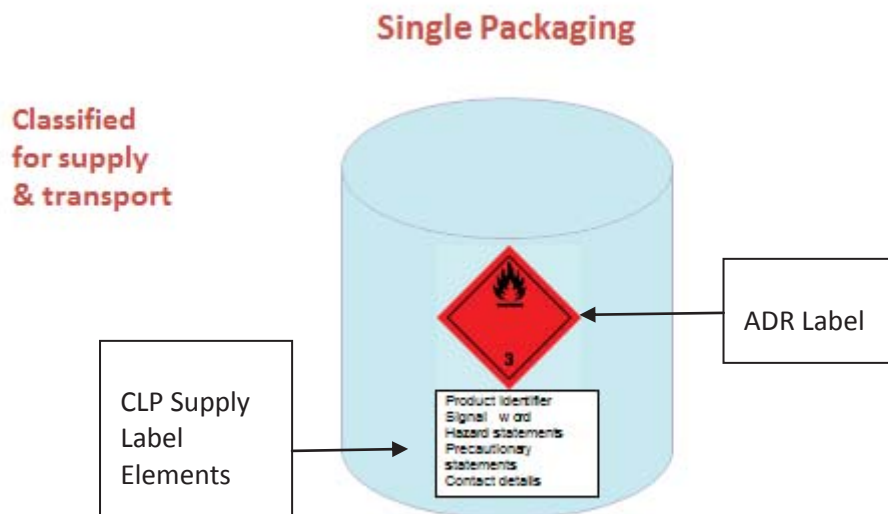
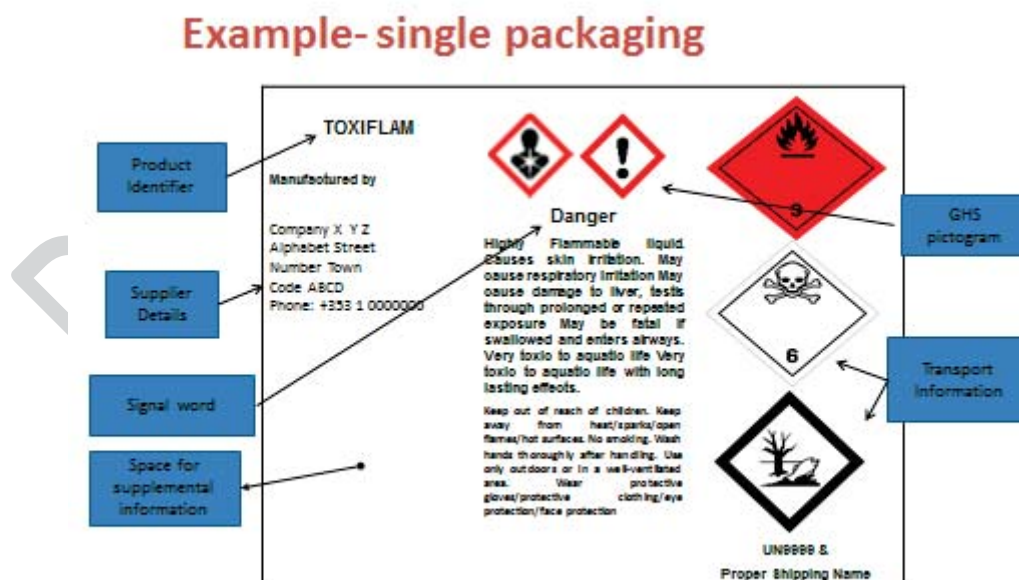


Figure 13 provides an example of a single packaging (e.g. a 200 litre drum) label for a mixture classified under ADR and CLP criteria. Transport and CLP label elements must be shown on the packaging. The CLP pictograms for flammability, dermal toxicity and aquatic hazards (acute and chronic) have been omitted as the underlying hazards are already covered by the corresponding transport pictograms.

Fig. 13



For more detailed guidance and information in relation to labelling under supply and use legislation, please refer to the HSA website:

[Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)

9. Vehicles, marking and labelling

Some vehicles used to transport dangerous goods are highly specialised, e.g. vehicles used to transport explosives and road tankers. Such vehicles must be certified annually for the transport of dangerous goods. The Road Safety Authority (www.rsa.ie) oversees the annual vehicle certification process.

With the exception of those carrying explosives, vehicles carrying packaged dangerous goods may be standard vehicles (e.g. vans and curtain sided vehicles) and no annual certification is necessary.

It is the responsibility of carriers to ensure the correct vehicle is used and that appropriate marking is applied. Drivers may also share in the marking duties, e.g. their responsibilities include the removal/covering of ADR “orange plates” when all dangerous goods are unloaded.



When vehicles are transporting dangerous goods, they are marked with ADR orange plates (front and rear). When carrying containers or bulk (unpacked loose material) the container will also be labelled or “placarded” with the appropriate class label on all four sides of the freight container and both sides and rear for bulk. Bulk vehicles shall also identify the goods by using the numbered orange plates (see example in tank marking below) on both sides of the bulk container. See figures 14 and 15 for illustrative examples.

Fig. 14 Blank orange plates used to mark vehicles and an example of a class hazard placard



ADR blank orange plate, 400mm x 300mm, border line 15mmx15mm (front and rear of vehicle)
For small vehicles, plate may be reduced in size to 300mm x 120mm and a 10mm border line



Placards when used on vehicles, containers or tanks are minimum of 250mm x 250mm

Fig 15

(Illustrative example to be inserted at later date)

Note: For packaged goods vehicles that normally do not require placards e.g. vans and curtain sided vehicles, placards are required for a sea crossing and this marking is accepted for road journeys immediately before or after a sea crossing.

10. Tanks, marking and labelling

Tanks (tank container, portable tank, fixed tank, demountable tank, battery vehicles and multi-element gas containers) are subject to periodic testing and certification. Examination and testing must be carried out by a competent person for tanks used for national transport purposes and if used for international operation, testing and examination must be carried out by an appointed and accredited tank tester.

These matters are the responsibility of the carrier/ tank operator and must be carried out in consultation with a DGSA.

For the carriage of dangerous goods in tanks, ADR requires marking of both the vehicle and tank, e.g. numbered orange plates front and rear of the vehicle, hazard placards and other marks as required on each side of the tank and at the rear. Alternative methods are specified in ADR such as in addition to the marks and placards, blank orange plates may be used at the front and rear of the vehicle and numbered orange plates to be used on each side of the tank, as illustrated in Figure 15. When different goods are carried in a multi-compartment tank, side marking is used when marking each separate compartment.

Fig. 15 Example of tank marking – class hazard placard, numbered orange plate and an elevated temperature mark (red triangle with thermometer)



As all tank operators should have an appointed DGSA the full requirements for tanks including marking and labelling are not covered in this guide.

11. Bulk container transport

Closed and sheeted bulk containers are used primarily for the transport of loose powder and granular materials. Dangerous goods that may be transported in bulk are identified in ADR. Containers used and maintained in accordance with ADR must be tested and approved in accordance with the International

12. Vehicle safety equipment/personal protective equipment

Safety equipment is essential for personal protection whether during routine activity or in the event of an emergency. ADR specifies both personal protective equipment for drivers and crew and safety equipment to be carried on vehicles for use by the crew.

It is the responsibility of carriers to supply and ensure safety equipment is provided and maintained in good working order.

This information is also available on the HSA ADR poster series as illustrated.

Mandatory Equipment:

For each vehicle:

- a suitable wheel chock,
- two self-standing warning signs,
- eye wash (2x 500ml – not required for goods with danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2, and 2.3)

For each member of the vehicle crew:

- a warning vest,
- torch,
- protective gloves, and
- safety glasses

Additional equipment for certain classes:

- An emergency escape mask for each crew member in vehicles carrying goods with danger label numbers 2.3 or 6.1
- A shovel, drain seal and plastic collecting container in vehicles carrying goods with danger label numbers 3, 4.1, 4.3, 8 and 9

In addition to the above items the driver should have with him a first aid kit and any other safety items identified by your risk assessment, e.g. chemical spill kit, chemical over suit, protective overalls, safety boots, hard hat etc.

Note: Instructions in writing (or "Tremcard" – transport emergency card) contain emergency action information for crew members, and in addition to emergency instruction and hazard identification information, it provides a list of mandatory personal and vehicle safety equipment (excluding fire extinguisher requirements). Such mandatory equipment is listed on page 4 of the instructions in writing (see Appendix 3). See also Section 14 which outlines what documentation should be carried on the vehicle.

Fire Fighting Equipment

The ADR specifies fire extinguisher requirements for transport units carrying dangerous goods. Table 6 outlines the specific fire extinguisher requirements for various transport units.

Table 6. Fire Extinguisher requirements for transport units under ADR regulations

Scenario	Requirement
All transport units	Minimum of a 2kg dry powder (or equivalent) extinguisher – suitable for fighting a cab or engine fire.
Units with max permissible mass of more than 7.5 tonnes	One or more portable fire extinguishers with minimum total capacity of 12kg dry powder (or equivalent) – at least one extinguisher being minimum of 6kg capacity
Units with max permissible mass of more than 3.5 tonnes up to and including 7.5 tonnes	One or more portable fire extinguishers with minimum total capacity of 8kg dry powder (or equivalent) – at least one extinguisher being minimum of 6kg capacity
Units with max permissible mass of up to and including 3.5 tonnes	One or more portable fire extinguishers with minimum total capacity of 4kg dry powder (or equivalent)
Transport Units exempted under Small Load Exemption (ADR 1.1.3.6)	Minimum of a 2kg dry powder (or equivalent) extinguisher – suitable for fighting a cab or engine fire.

13. General transport provisions

The ADR sets out various requirements for transport, not least requirements for vehicles, packages, tanks, in bulk and containers. Generally each item of equipment or packaging will be specified for the dangerous goods to be carried.

For the specific provisions that apply to your business you may require the services of a DGSA.

13.1 Loading, load restraint and unloading

Loading, unloading and handling operations apply to packages, dangerous goods in bulk, including the placing of any container, bulk container, tank container or portable tank onto a vehicle, and subsequent removal from the vehicle.

For operators involved in the transport of relatively small quantities of packaged dangerous goods, various transport exemptions may be availed of, as outlined in Section 5.

Loading

Checks prior to loading and transport of dangerous goods must be carried out in all circumstances, and if any of the following is found not to be in compliance with the regulatory provisions, loading should not commence:

- Documentation
- Vehicle and its load – from visual inspection of the vehicle itself, packaging, container, tank containers, bulk container, portable tank etc.
- Driver (training certificate)
- Transport and safety equipment carried on the vehicle, including PPE.

Load Restraint

Checks should be made in relation to the following:

- Orientation arrows on packages are correctly oriented
- Load liquids below dry goods as far as possible
- Load distribution - weight
- Do not over stack and ensure to protect goods when stacking
- **Secure all dangerous goods to the vehicle** – packaged goods must not be loaded loose on or in a vehicle or container. Securing packages to prevent movement can be achieved by filling voids with dunnage, use of strapping and/or by blocking and bracing. Goods should not be able to move in any direction during normal transport conditions. When using straps care must be taken not to damage or deform the package. Note curtains on curtain-sided vehicles do not act as a means of load security unless specifically designed for that purpose.



Unloading

Unloading must not be carried out if an inspection of the vehicle, driver, load, transport or safety equipment reveals deficiencies that might affect the safety or security of the unloading. Such deficiencies must be remedied before the commencement of unloading. In general, the operator must:

- Verify which goods are to be unloaded
- Check security of load and for damage to packaging
- Re-secure dangerous goods not unloaded
- If necessary due to leakage, clean the vehicle or container as soon as possible and before re-loading.



13.2 Mixed packing restrictions

Packing different dangerous goods or dangerous goods and other non-dangerous goods may be packed together in combination packagings (together in the same package, i.e. inner packages contained within an outer package), provided that they do not react dangerously with one another.

However, various restrictions apply to certain dangerous goods regarding limitation on quantities and therefore this level of detail should be verified by a DGSA.

13.3 Mixed load restrictions

Mixed loading restrictions apply to certain dangerous goods. This means that packages of certain goods may not be loaded onto the same vehicle/container.

This only affects Class 1 (explosive substances) and Class 4.1 and Class 5.2 (flammable solids and organic peroxides, respectively) with a secondary explosive hazard, i.e. Class 1, Class 4.1(1) and Class 5.2(1) substances may not be loaded into the same vehicle with other dangerous goods, and substances within these classes and in different compatibility groups may additionally not be permitted together in the same vehicle.

Due to the classes of goods involved, this restriction is likely to affect relatively few dangerous goods shipments. All other dangerous goods may be carried in one vehicle, e.g. gas cylinders with corrosive liquids and flammable solids, or any other combination not impacted by the restriction.

Restriction also applies to loads containing food stuffs when toxic or infectious substances are also carried. **A DGSA should be consulted in respect to all load restrictions.**

13.4 Tunnel restrictions – tanks/ packages

In Ireland Dublin Port Tunnel (Category C) is the only tunnel with dangerous goods restrictions. However, if a dangerous goods vehicle is travelling throughout Europe many routes may have tunnel and other restrictions applied to dangerous goods transport. It is therefore important to plan your journey.

Tunnels are categorised using letters A through to E. The categorisation is based on the assumption that there are three major dangers in tunnels, danger of (i) explosions, (ii) release of toxic gas or volatile toxic liquid, and (iii) fires.

The tunnel category, assigned by the competent authority (the NRA in Ireland) to a given road tunnel for the purpose of restricting the passage of transport units carrying dangerous goods, is indicated by means of road signs, as indicated in Table 7 and Figure 16.

Table 7.

Tunnel Category	A	B	C	D	E
Letter on approach	No sign. No restrictions	B	C	D	E

Fig. 16. Sign for Tunnel Category C (e.g. Dublin Port Tunnel)



All dangerous goods have a corresponding restriction code B, C, D, E, or a dash, indicated as '(-)'. When a dash is indicated instead of one of the restriction codes, the dangerous goods are not subject to any tunnel restriction (except for UN Nos 2919 and 3331 – radioactive material).

Table 8, showing the dangerous goods restriction codes, identifies the tunnels that cannot be entered. When carrying several different substances, **the dangerous goods with the most restrictive code dictate the restriction for the whole load**, e.g. for a mixed load of dangerous goods with tunnel restriction codes of B, C and D, the full load will have a restriction code B.

Table 8. Dangerous Goods Restriction Codes (when two letters are indicated, the first applies to carriage in tanks and the second applies to packaged goods)

Restriction code of the whole load*	Restriction
-	Passage allowed through all tunnels
B	Passage forbidden through B, C, D and E
C	Passage forbidden through C, D and E
D	Passage forbidden through D and E
E	Passage forbidden through E
B/D	Tank carriage: Passage forbidden through tunnels of category B, C, D and E; Other carriage e.g. packages: Passage forbidden through tunnels of category D and E
B/E	Tank carriage: Passage forbidden through tunnels of category B, C, D and E ; Other carriage e.g. packages : Passage forbidden through tunnels of category E
C/D	Tank carriage: Passage forbidden through tunnels of category C, D and E; Other carriage e.g. packages : Passage forbidden through tunnels of category D and E
C/E	Tank carriage: Passage forbidden through tunnels of category C, D and E; Other carriage e.g. packages: Passage forbidden through tunnels of category E
D/E	Bulk or tank carriage: Passage forbidden through tunnels of category D and E; Other carriage e.g. packages : Passage forbidden through tunnels of category E

*Dangerous Goods with a tunnel restriction code '(-)' means no restrictions (except for UN2919 and 3331)

13.5 Parking restrictions and supervision of vehicles

ADR requires that when certain quantities of particular classes of dangerous goods are on a vehicle that it must be:

- **supervised at all times or**
- **parked, unsupervised, in a secure depot.**

When parking restrictions are required and when the above provision cannot be met, then the following provisions will apply after the vehicle has been properly secured, in order of preference:

- A vehicle park supervised by an attendant who must be notified
- A public or private park in a safe position
- A suitable open space away from traffic, houses and people

As the parking provisions only apply to certain dangerous goods and in certain quantities you will need reference ADR or to seek clarification from a DGSA.

For example:

The above restriction applies to petrol in packages, e.g. drums or IBCs, totalling 10,000Kg or over, or when 3000L or over is carried in a tank.

However, in accordance with ADR, these restrictions would not apply to any quantity of diesel or kerosene.

It should be noted that general health and safety legislation and security provisions should always be given consideration when leaving vehicles unattended containing any dangerous goods and appropriate procedures employed.

14. Documentation

Documentation is an important aspect of the transport of dangerous goods. Vital information on the dangerous goods carried and verification for driver qualifications along with emergency information is core to what must be in place during transport operations.

Documentation list

Notwithstanding the documents which may be required under other legislation, the following documents must be carried on the transport unit:

- The **transport document** detailing all the dangerous goods carried
- When appropriate, the large container or vehicle packing certificate
- The **instructions in writing**
- Means of identification, which include a photograph, for each member of the vehicle crew
- Where the provisions of ADR require the following documents to be drawn up, they shall likewise be carried on the transport unit:
 - The annual vehicle certificate of approval
 - The driver's training certificate
 - A copy of any exemptions, approvals or Multi-Lateral Agreements (MLAs), as appropriate

Note: If unsure in relation to the requirement for particular documentation, or to the information provided in such documentation, it would be advisable to consult a DGSA.

A list of all current exemptions/approvals/MLAs is provided on the HSA website: [Health and Safety Authority - ADR Landing Page](#)

14.1 Transport document

The transport document must be provided by the Consignor, and must be set out and contain the following information for each dangerous substance, material or article carried;

- (a) the UN number preceded by the letters "UN";
- (b) the proper shipping name supplemented, when applicable with the technical name in brackets;
- (c) the hazard label model numbers given in Column (5) of Table A in ADR Chapter 3.2 or when more than one hazard label model numbers are given, the numbers following the first one shall be given in brackets;
- (d) where assigned, the packing group for the substance which may be preceded by the letters "PG" (e.g. "PG II");
- (e) the number and a description of the packages when applicable. UN packaging codes may only be used to supplement the description of the kind of package (e.g. one box (4G);

NOTE: *The number, type and capacity of each inner package in a combination packaging is not required to be indicated.*

- (f) the total quantity of each item of dangerous goods bearing a different UN number, proper shipping name or, when applicable, packing group (as a volume or as a gross mass, or as a net mass as appropriate);

NOTE 1: *In the case of intended application of "small load exemptions (see Section 5.2 and Appendix 1) , the total quantity of dangerous goods for each transport category shall be indicated in the transport document (See section 20 0 Worked Examples).*

NOTE 2: *For dangerous goods in machinery or equipment specified in ADR, the quantity indicated shall be the total quantity of dangerous goods contained therein in kilograms or litres as appropriate.*

- (g) the name and address of the consignor;
- (h) the name and address of the consignee(s). With the agreement of the competent authorities of the countries concerned by the carriage, when dangerous goods are carried to be delivered to multiple consignees who cannot be identified at the start of the carriage, the words "Delivery Sale" may be given instead (See also Section 5.3 – National Exemptions);
- (i) a declaration as required by the terms of any special agreement;
- (k) where assigned, the tunnel restriction code given in Column (15) of Table A of ADR Chapter 3.2, in capitals within parenthesis. The tunnel restriction code need not be added in the transport document where the carriage is known beforehand not to pass through a tunnel with restrictions for carriage of dangerous goods (See also Section 13.4).

The location and order in which the elements of information required appear in the transport document is left optional, except that (a), (b), (c), (d) and (k) shall be shown in the order listed above (i.e. (a), (b), (c), (d), (k)) with no information interspersed, except as provided in ADR.

Examples of such permitted dangerous goods descriptions are:

"UN 1098 ALLYL ALCOHOL, 6.1 (3), I, (C/D)" or

"UN 1098, ALLYL ALCOHOL, 6.1 (3), PG I, (C/D)"

Table 9. An example of a transport document.

ADR Transport Document Consignor: Company XYZ Address: a road, town, county Date: dd/mm/yy		
Dangerous goods description:	No. of packages/ type	Total quantity
UN1134, chlorobenzene, 3, PGIII, (D/E)	20 x 200L drums	2000L
UN1760, corrosive liquid, N.O.S.(contains sodium hydroxide), 8, PGIII, (E)	10 X 10L drums	100L
Consignee(s): Company ABC Address: a road, town, county		

14.2 Large container or vehicle packing certificate

If the carriage of dangerous goods in a large container precedes a voyage by sea, a container packing certificate conforming to Section 5.4.2 of the IMDG Code shall be provided with the transport document. The functions of the transport document and of the container packing certificate may be incorporated into a single document; if not, these documents shall be attached one to the other. If these functions are incorporated into a single document, the inclusion in the transport document of a statement that the loading of the container has been carried out in accordance with the applicable modal regulations together with the identification of the person responsible for the container packing certificate shall be sufficient.

NOTE: The container packing certificate is not required for portable tanks, tank-containers and MEGCs.

Declaration in a multimodal transport document:

CONTAINER/VEHICLE PACKING CERTIFICATE
I hereby declare that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with the applicable provisions of ADR/IMDG 5.4.2
MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING
Name of company
Name / Status of declarant
Place and date
Signature of declarant

14.3 Instructions in writing

A copy of the instructions in writing (Appendix 3) must be supplied by the carrier to the vehicle crew in a language understood by the driver and crew. This document is commonly referred to as the TREMc card (transport emergency card), and must be kept readily available in the cab of the vehicle.

These instructions set out emergency actions to be performed by the driver/crew, dangerous goods hazard characteristics, additional guidance and a list of the general and personal equipment to be carried on a vehicle.

Before the start of the journey, the members of the vehicle crew **must inform themselves** of the dangerous goods loaded and consult the instructions in writing for details on actions to be taken in the event of an emergency.

For a free download and available in multiple languages refer to the UNECE web site: http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.html

15.Transport equipment inspection and certification

All transport equipment (see Section 1 for the definition of this) should be subjected to regular general inspections, e.g. visual inspection prior to filling, packing, loading and vehicle safety equipment checks etc.

Certain transport equipment may require **certification** and may also be subject to **periodic inspection**. All inspection and certification regimes must be in accordance with national legislation or ADR as appropriate. Inspection may only be carried out by competent persons and in some instances this work may only be performed by accredited inspection bodies.

Information on your specific responsibilities may be obtained from a DGSA.

For general information only, Table 10 provides **some typical examples** of certification and inspection requirements.

Table 10. ADR Certification and mandatory inspection summary: *

Transport Equipment	Certification	Periodic Inspection
Packaged goods vehicles, vans/trucks	None (except for vehicles carrying explosives)	None (except for vehicles carrying explosives)
Certain trucks and trailers (transporting tanks)	Initial Type approval	Annual vehicle approval certification
Packaging (boxes/drums etc)	Test report from manufacturer/supplier	None (note: plastic containers have a limited shelf life, typically 5 years)
IBC's	Test report from manufacturer/supplier	2.5/5 yearly inspection (metal/rigid plastics and composite)
Bulk containers	In accordance with ADR	In accordance with ADR
Tanks	Type approval from manufacturer/supplier	2.5/3 and 5/6 yearly inspection

*Other legislative requirements may apply e.g. annual vehicle road worthiness testing

16. Security provisions

In relation to the transport of dangerous goods, **security** means measures or precautions to be taken to minimise theft or misuse of dangerous goods that may endanger persons, property or the environment.

All persons engaged in the carriage of dangerous goods shall consider the security requirements commensurate with their responsibilities.

Dangerous goods shall only be offered for carriage to carriers that have been appropriately identified. This means you must put in place procedures to verify companies and persons to whom you hand over dangerous goods.

It also means that areas within temporary storage terminals, temporary storage sites, vehicle depots, berthing areas and marshalling yards used for the temporary storage during carriage of dangerous goods shall be properly secured, well lit and, where possible and appropriate, not accessible to the general public.

Drivers and vehicle crew shall carry with them means of identification, which includes their photograph, during carriage of dangerous goods. This is satisfied when carrying the new ADR (2011) driver training certificate or separate company i.d. card or driving licence.

Employers must also keep records of all security training when provided and to make these records available, to the employee or HSA, upon request. Records shall be kept by the employer for a period of time established by the competent authority. In Ireland this shall be the duration of employment and for a further period of not less than 1 year following the termination of employment.

Provisions for high consequence dangerous goods

"High consequence dangerous goods" are those which have the potential for misuse in a terrorist incident and which may, as a result, produce serious consequences such as mass casualties or mass destruction.

The table in Appendix 4 provides a list of such goods, which are considered high consequence dangerous goods when carried in quantities greater than those indicated therein.

Carriers, consignors and other participants engaged in the carriage of high consequence dangerous goods shall adopt, implement and comply with a **security plan**.

If your company is in the business of carrying high consequence dangerous goods you must appoint a DGSA.

17. Emergency action

Emergency action will depend on the circumstances of a particular incident. The most important aspect of any procedure is the training provided, whether it be dealing with a spill during unloading or a vehicle roll over spilling the load across a busy carriageway.

Training (along with supporting documentation) is given to drivers who have undergone formal ADR driver training. It is important, however, that all persons involved in the carriage of dangerous goods receive training in line with their role and responsibility.

Note that under general health and safety legislation, all employers have a responsibility to carry out a risk assessment and put in place procedures to

minimise and control hazards. This should be supported by documented procedures, information, supervision and training.

Businesses that consign, store and or carry dangerous goods must have procedures as appropriate to deal with the following (non-exhaustive list):

- Chemical spill
- Fire/explosion
- Road traffic incident involving dangerous goods
- Personal and/or environmental contamination
- Security incidents / Loss of dangerous goods

Such businesses must notify the emergency services of any immediate risk to public safety, property or the environment.

Under each foreseeable emergency situation for your business you should consider the following within your procedures (non-exhaustive list):

- Outline the emergency,
- Identify employee(s) with responsibilities e.g. co-ordinator, primary contact,
- Key actions, e.g. notify emergency services/ local authority/ local doctor etc
- Collecting information and taking appropriate action
- Contact appropriate specialist contractors (chemical spill/waste contractor, vehicle recovery)
- Notify Insurance company
- Review actions (accident investigation including a formal incident report – see reportable incidents below) and plan for resumption of normal business

Incidents reportable to the Health and Safety Authority (ADR 1.8.5)

If a serious accident or incident takes place during loading, filling, carriage or unloading of dangerous goods, the loader, filler, carrier or consignee, respectively, shall ascertain that a report conforming to the model prescribed in ADR 1.8.5.4 is completed and submitted to the Health and Safety Authority.

An occurrence subject to report has occurred if dangerous goods were released or if there was an imminent risk of loss of product, if personal injury, material or environmental damage occurred, or if the authorities were involved and one or more of the following criteria has/have been met:

- Personal injury means an occurrence in which death or injury directly relating to the dangerous goods carried has occurred, and where the injury
 - (a) Requires intensive medical treatment;
 - (b) Requires a stay in hospital of at least one day; or
 - (c) Results in the inability to work for at least three consecutive days.
- Loss of product means the release of dangerous goods
 - (a) Of transport category 0 or 1 in quantities of 50 kg / 50 l or more;
 - (b) Of transport category 2 in quantities of 333 kg / 333 l or more; or
 - (c) Of transport category 3 or 4 in quantities of 1 000 kg / 1 000 l or more.

The loss of product criterion also applies if there was an imminent risk of loss of product in the above-mentioned quantities. As a rule, this has to be assumed if, owing to structural damage, the means of containment is no longer suitable for further carriage or if, for any other reason, a sufficient level of safety is no longer ensured (e.g. owing to distortion of tanks or containers, overturning of a tank or fire in the immediate vicinity).

- If dangerous goods of Class 6.2 (infectious substances) are involved, the obligation to report applies without quantity limitation.
- In occurrences involving Class 7 (radioactive substances), the criteria for loss of product are:
 - (a) Any release of radioactive material from the packages;
 - (b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against ionizing radiation (Schedule II of IAEA Safety Series No. 115 – "International Basic Safety Standards for Protection Against Ionizing Radiation and for Safety of Radiation Sources"); or
 - (c) Where there is reason to believe that there has been a significant degradation in any package safety function (containment, shielding, thermal protection or criticality) that may have rendered the package unsuitable for continued carriage without additional safety measures.
- Material damage or environmental damage means the release of dangerous goods, irrespective of the quantity, where the estimated amount of damage exceeds 50,000 Euros. Damage to any directly involved means of carriage containing dangerous goods and to the modal infrastructure shall not be taken into account for this purpose.
- Involvement of authorities means the direct involvement of the authorities or emergency services during the occurrence involving dangerous goods and the evacuation of persons or closure of public traffic routes (roads/railways) for at least three hours owing to the danger posed by the dangerous goods.

If necessary, the HSA may request further relevant information.

For further information contact a DGSA or the HSA.

18. Record keeping

Records and documentation is part of business, but some must be kept by law. For businesses involved with the carriage of dangerous goods, these include the following:

Document	Participant Responsible	Retention Period
Transport Documents	Consignor and Carrier	3 months
Training records	All employers	Duration of employment plus 1 year

Annual report (DGSA)	Consignor and Carrier	5 years
Vehicle certification	Carrier/operator	Period of use
Tanks certification	Operator	Period of use
Packaging certification (available on request from packaging manufacturer)	Consignor	Period of use

19. Enforcement

In Ireland, enforcement of the legislation in relation to the carriage of dangerous goods by road is primarily undertaken by inspectors of the Health and Safety Authority, except for Class 1 and Class 7 materials, which are controlled by the Department of Justice and Equality and the Radiological Protection Institute of Ireland (RPII) respectively. An Garda Síochána and other competent authorities may also enforce certain aspects of the legislation.

19.1 Inspection

Compliance with the legislation is monitored and enforced by inspection. Inspections are carried out on vehicles at the road side and at the premises of businesses involved in consignment, carriage, loading, packing, filling and unloading of dangerous goods.

Roadside vehicle inspections follow an inspection regime set down in a European Directive, which means that inspections are uniform throughout Europe. Inspections are conducted in Ireland with the support from An Garda Síochána and are set up country wide. (See Appendix 5 for an example of the check list used).

Premises inspections are generally unannounced and provide inspectors with the opportunity to look more closely at the full range of activities of the business concerning dangerous goods transport. Such inspections also provide an opportunity for businesses to seek advice from the HSA. Where enforcement action is necessary this may take the form of a written notice/report of inspection, directions for an improvement plan, contravention or prohibition notice.

19.2 Offences and Penalties

Offences and penalties are set out in national legislation. An offence is committed if a person contravenes a provision of national regulations, which includes a contravention of any of the general participant duties which are covered in Section 3 of this guidance.

Failure to comply with legislative requirements may result in the issue of a fixed payment notice (commonly referred to as on-the-spot-fines), of either €100, €250 or €500, depending on the alleged offence or penalties in court of up to €3000 and/or 12 months imprisonment on summary conviction, and up to €500,000 and/or 3 years imprisonment on conviction on indictment.

20. Practical worked examples

This section provides explanations for certain common situations that a company may find itself in, whether it is in the business of carrying dangerous goods, the carriage of which is not the company's main activity, the carriage of which is only from time to time, or in very small quantities etc.

You may be able to identify with one or more of the following as applicable to your business:

- Examples 1-5 cover different aspects of carriage under the various exemptions (covered in Section 5),
 - Maintenance/mobile work e.g. refrigeration engineer, welding, fuel carried for equipment e.g. generators, garden machinery, various types of hot work
 - Carriage of relatively small quantities of dangerous goods which may qualify for an exemption according to the transport category or "small load" exemption, e.g. flammable paint deliveries, shipment to or from co-ops or retail outlets, moving dangerous goods between depots, small van deliveries
 - Carrying goods which qualify for limited quantity exemption, i.e. dangerous goods in small quantities in the order of up to 5L or 5Kg
- Example 6 deals with the carriage of fuel in 'bowsers'
- Example 7 clarifies the situation in relation to tunnel restrictions, and
- Example 8 covers the carriage of one type of waste (asbestos waste)

Each example describing particular dangerous goods may be applicable to a range of substances in similar circumstances.

Example 1: Maintenance Work - Carriage of dangerous goods (e.g. chemicals, gases or fuel) for maintenance or other work activity.

A company has staff who need carry small quantities of fuel for a generator and oxy/acetylene sets for work/maintenance activities. The company engineers also need to carry an aerosol (UN 1950) in their vehicles.

As these dangerous goods are required for specific work activities and therefore the transport of those dangerous goods is not the main activity of that business, this activity may avail of an ADR exemption – see **Section 5.1(c)**.

This exemption may apply to many similar situations irrespective of the dangerous goods used, but is subject to limitations as specified;

- the dangerous goods must be carried in quantities of not more than **450 litres** per packaging
- the dangerous goods must be less than the maximum quantities specified in the **small load exemption (Section 5.2 and quantities specified in Appendix 2)**.

General conditions that should still be observed:

- The packaging, drums and/or cylinders used should be carried in original packaging (typically UN approved) and be marked and labelled with the appropriate hazard label.
- All containers must be secured in the vehicle so as not to be able to move under normal conditions of carriage and are not likely to leak.
- Carry out a risk assessment and apply any additional measures as a result of that assessment, e.g. safety equipment, a fire extinguisher, spill kit etc.

Note that carrying the same dangerous substances **in order to distribute them between work depots is beyond this exemption and all relevant legislation will apply**. However, in some instances the operator may be able to apply the small load exemption (see example 2) to avoid full application of the ADR.

Example 2: Small Load Exemption when carrying substances within the same transport category

The carriage of dangerous goods using the **small load exemption (Section 5.2 and Appendix 2 of this guidance and ADR 1.1.3.6)** is common place. This example may be applied to most situations in which relatively small quantities of packaged dangerous goods are carried for distribution.

For example, a company distributes paints and lacquers, some of which are classified as flammable liquids. The company has identified all the paints and lacquers in stock subject to ADR, noting that all are packing group III.

From the table in Appendix 2, we can see that all of these goods are categorised as belonging to transport category 3, and so the maximum load for these goods is “**1000 Kg/litres**”. Thus in order to avail of the exemption, each shipment must be kept below 1000 litres.

For each transport operation, if the load is kept below 1000 litres, the only requirements that **will apply** are the following (main provisions listed):

- A transport document must be carried, with details (as provided in Section 14.1) for each hazardous substance carried
 - The vehicle must carry a suitable 2Kg fire extinguisher
 - The driver and crew must have received appropriate general training and must not open the dangerous goods packages
 - If the vehicle carries a torch it must be non-sparking (intrinsically safe), and the vehicle crew must not smoke in or anywhere near the vehicle during loading and unloading
 - In all cases a risk assessment should be carried out and any additional measures identified following that assessment should be taken

Availing of this exemption means you **do not** need to comply with the following (main provisions listed):

- (Except for class 1 explosives) ADR security requirements
- Vehicle orange plates and placarding
- Provision and carrying the instructions in writing
- ADR driver training certification (see above – general training required, e.g. job specific training, relevant hazard awareness training, emergency action)
- Safety equipment/fire extinguishers, except as detailed above

Example 3: Small load exemption when carrying substances within different transport categories

The company as above is in a similar situation, but on this occasion some of the paints and a lacquer have been identified as belonging to packing group II (transport category 2) and in addition, a cleaning liquid which is corrosive, packing group III (transport category 3) is sometimes also carried on the vehicle.

For example, one particular transport operation involves the carriage of the following:

Paint Group A, PG III: 400 litres
 Paint Group B, PG II: 20 litres
 Lacquer, PG II: 100 litres
 Cleaner, PG III: 50 litres

In order to ensure the shipment can still avail of the exemption, apply the multiplying factors as provided in Table 1 in Section 5.2, and insert all values in Table 11 as follows:

Table 11.

Dangerous Goods	Transport Category	Quantity (litres)	Multiplying factor	Total
Paint Group A	2	400	1	400
Paint Group B	3	20	3	60
Lacquer	3	100	3	300
Cleaner	2	50	1	50
Total				810

The sum total is less than "1000", so **this shipment may be carried under the small load exemption.**

If however, the lacquer, a transport category 2 material, amounted to 200 litres, then the situation will be as provided in Table 12.

Table 12.

Dangerous Goods	Transport Category	Quantity (litres)	Multiplying factor	Total
Paint Group A	2	400	1	400
Paint Group B	3	20	3	60
Lacquer	3	200	3	600
Cleaner	2	50	1	50
Total				1110

The sum total, being over “1000 litres” would mean this exemption **cannot be used** and **all** the applicable regulations would apply.

This exemption may apply to any single or group of chemicals as long as the calculated figure is below “1000”.

See example 2 for the transport requirements that still apply and what requirements do not apply if you avail of this exemption.

Example 4: Transporting fuel/LPG in drums and cylinders

A company makes door to door deliveries of kerosene in 20 litre drums and makes the occasional delivery of LPG in 5Kg or 11 Kg cylinders.

The advice for this company would be, if possible, to avail of the **small load exemption** (Section 5.2, Appendix 2 and ADR 1.1.3.6) so as to avoid the necessity to meet all the requirements of the ADR.

Kerosene, UN No. 1223, is Class 3, PG III and belongs to Transport Category 3. If a transport operation by this company only involves the delivery of kerosene drums, the small load exemption can be availed of for loads below 1000 litres, i.e. up to 49 drums of capacity 20 litres (total 980 litres).

LPG, UN No. 1965, is a Class 2 liquefied gas and belongs to Transport Category 2. If a transport operation by this company only involves the delivery of LPG cylinders, the small load exemption can be availed of for loads below 333 Kg.

If the transport operation involves the delivery of kerosene drums and LPG cylinders, a calculation will need to be carried out with each transport operation to ensure that it can be carried out under the small load exemption.

For example, the company needs to deliver five LPG cylinders (four 11Kg cylinders and one 5Kg cylinder) and wishes to calculate how many kerosene

drums it can carry whilst still being able to avail of the small load exemption. Table 13 can be used to calculate this.

Table 13.

Dangerous Goods	Transport Category	Quantity (litres/Kg)	Multiplying factor	Total
Kerosene	3	?	1	?
LPG	2	49	3	147
Total				< 1000

From Table AZ,

$$1000 - 147 = 853$$

The company can therefore carry $(853 \div 20 = 42.7)$, i.e. up to 42 kerosene drums (20 litres each, total 840 litres) in this transport operation, i.e.

$$840 + 147 = 987 \text{ (i.e. } < 1000 \text{)}$$

If loads are kept within the exemption limits (i.e. total quantity, taking into account the multiplying factors, is less than 1000 Kg/litre), the only requirements that will apply are the following:

- It must be ensured that the fuel is carried in UN approved packaging, marked and labelled.
- A transport document must be carried, with details (as provided in Section 14.1). For delivery sales, i.e. door to door sales, enter 'Delivery Sale' in place of the name and address of the Consignee(s) if the customers are unknown at the start of the journey.
- The vehicle must carry a suitable 2Kg fire extinguisher

See example 2 for the transport requirements that still apply and what requirements do not apply if you avail of this exemption.

If the company forecasts that they need to carry more than is allowed under the small load exemption on a regular basis, it must prepare itself as it will be subject to the full provisions of ADR, and will be required to appoint a DGSA.

Example 5: Carriage of substances in Limited Quantities (LQ)

A company transports on a regular basis, a product identified as UN No. 1170, Ethanol Solution, Class 3, PG III. The substance is always packed in **2.5 litre bottles**, and the total quantity carried ranges from 3000 litres to 10,000 litres.

The small load exemption cannot be availed of on account of the total load size. As the product is carried in relatively small (inner) packagings, the next thing to do is check whether or not it is permitted to be carried in **limited quantities**. This can be done by referring to the ADR, Chapter 3.2, Table A, Column 7(a), which provides the applicable quantity limit of the inner packaging which will enable the substance to be carried under this exemption.

For UN No. 1170, the LQ limit is 5 litres, and so this company can carry its loads under the LQ exemption. Please refer to Section 5.4 for further details.

In relation to driver training, **ADR training is not required**. LQ provisions only refer to the **relevant provisions** of ADR Chapter 1.3 which covers training of persons involved in the transport of dangerous goods. For drivers carrying goods in LQ this is likely to only require on the job training, but possibly function specific training such as loading, unloading and handling, depending on the duties of the driver.

You may require a DGSA to establish LQ provisions.

Example 6: Use of "bowsers"

Bowsers are common place on our roads and used in various work places, most commonly for fuel transfer.



There is likely to be no issue with a modern certified bowser when used in accordance with its certification, i.e. certified as an IBC for the carriage of a particular type of fuel(s) (e.g. aviation fuel, kerosene or diesel). However, for an older bowser with no certification, there are limitations to its use and it may be completely unsuitable for transporting any dangerous goods, including fuels. If it is intended to use a bowser for the transport of diesel, it must comply with the guidelines set out in Appendix 6.

For example, a company wishes to know if it can use bowzers for the transport of aviation fuel (UN No. 1863, Class 3, PG II) from a fuel depot to a garage in order to fuel up a number of helicopters, and also for the transport of diesel (UN No. 1202, Class 3, PG III) to various locations. The company currently has two bowzers that were manufactured in 2001, and which are not UN approved, and wishes to know if the two bowzers would be suitable for the carriage of the two fuels, one bowser for each fuel type.

In relation to the transport of the aviation fuel (UN No. 1863), the only bowzers that would be suitable for this purpose are those certified as an IBC and with an "X" or "Y" type approval. The company will thus need to purchase a new UN-approved bowser (IBC) authorised for the carriage of UN No. 1863, PGII. The manufacturer or a DGSA would be able to advise the company on this.

In order to ascertain the suitability of the second bowser for the carriage of diesel (UN No. 1202), reference must be made to the guidelines in Appendix 6. If the bowser complies with the specifications outlined in the guidelines it will be deemed to be an IBC for the purpose of diesel carriage only. Otherwise, it cannot be used for this purpose.

Example 7: Tunnel Restrictions

A company wishes to carry a mixed load of cylinders containing LPG, Carbon Dioxide, Dissolved Acetylene and Compressed Methane. The quantities generally carried do not facilitate carriage under the small load exemption. The company wishes to know if it can carry such loads through the Dublin Port Tunnel (Tunnel Category C).

The tunnel restriction codes for the goods being carried are (these can be obtained by referring to Section 13.4 and Chapter 3.2 of the ADR, Table A, Column 15):

LPG (UN 1965) - Code B/D

Carbon Dioxide (UN No. 1013) – Code C/E

Dissolved Acetylene (UN No. 1001) – Code B/D

Compressed Methane (UN No. 1971) – Code B/D

Three of the gases to be carried have tunnel restriction codes of B/D (which is the most restrictive code of all goods carried). From Table X in Section 13.4, it can be determined that for **packages** (i.e. cylinders) passage is forbidden through tunnels of category D and E. Passage is therefore allowed through Dublin Port Tunnel.

Note 1: If it is known that the journey will include passage through the tunnel, the tunnel restriction codes must be indicated on the transport document (see also Section 14.1).

Note 2: If any of these gases were to be carried in a tank, passage would be forbidden through Dublin Port Tunnel as the “B” classification would apply to the goods.

Example 8: Carriage of waste asbestos

Waste material may be hazardous for transport and as such must be assessed and classified accordingly.

A company involved in the removal of asbestos material, and/or the transport of that material as waste, will need to assess their activity to determine the provisions of ADR which may apply.

A specific guide on transporting waste asbestos is available on the HSA web site (under Information and Guidance).

[Health and Safety Authority - ADR Landing Page](#)

Note the general principals of classification, packaging, labelling, vehicle marking, training etc. apply to **all waste materials** considered dangerous for transport, e.g. waste batteries, clinical waste, residues of hazardous material, production process wastes containing hazardous materials and so on.

21. Further information and guidance

Further information may be obtained from the HSA web site www.hsa.ie on general health and safety requirements. These include the preparation of a safety statement and the completion of risk assessments, as required by law for all businesses.

From our home page you can access guidance specifically aimed at small businesses (under the “select a topic” tab you will find a section entitled “BeSMART”).

You can also access further information and guidance on the safe supply, use and management of chemicals, and on the carriage of dangerous goods.

Links to legislation, useful information and guidance documents:

- The ADR is free to access and download at:
<http://www.unece.org/trans/danger/publi/adr/adr2011/11contentse.html>
- Current regulations can be obtained from the HSA ADR web pages: [Health and Safety Authority - ADR Landing Page](#)
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- For information on the role and appointment of a DGSA, refer to our guidance on the appointment of a DGSA, [Health and Safety Authority - ADR Landing Page](#)
- Details on the Driver and DGSA examination process are available on the HSA web site:
[Health and Safety Authority - ADR Landing Page](#)

- Information regarding approved training providers and examination of drivers can be obtained from the HSA web site:
[Health and Safety Authority - ADR Landing Page](#)
- Instructions in Writing are available in multiple languages refer to the UNECE web site: http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.html
- A list of all current exemptions/approvals/MLAs is provided on the HSA website: [Health and Safety Authority - ADR Landing Page](#)
- Guidance on classification and labelling under the CLP Regulation is provided at:
[Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)
- An information sheet on the content and layout of Safety Data Sheets (SDS) is provided at the following link: [Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)
- Further guidance, information, industry notices, information posters, and useful links, according to your particular requirements can be accessed on the ADR landing page of the HSA website [Health and Safety Authority - ADR Landing Page](#)

22. Appendices

Appendix 1. Self-Assessment for the Carriage of Dangerous Goods By Road

Activity/Role	Identify applicable duties as: Consignor Carrier (Un)Loader Packer Filler Driver Vehicle Crew Consignee	Cross reference all duties applicable to your business and draw up detailed lists of who is responsible for what activity.
Dangerous goods	Identify what dangerous goods are subject to ADR	List products and wastes as a producer, or if you only carry goods, identify what may and may not be carried. Classify goods if necessary and ensure you create or have access to product information e.g. safety data sheets
Training	Identify training needs for employees in accordance with their role and responsibility – note training of employees is required before assuming responsibilities	Hold training records on file and review on a regular basis.
Vehicles/ safety equipment	Identify vehicles used for transport and safety equipment/ plates and placards required	Create vehicle audit sheets and maintain records on vehicle maintenance, safety checks, equipment and marking
Packaging/labelling	Identify all packaging used and handled. Note correct packaging type for goods and limitations of certain packaging e.g., certain plastics have a standard 5 year period of use Identify correct labelling for each package type and substance	Create processes and procedures to ensure correct packaging/labelling is used and when appropriate remove packaging from circulation that is damaged or out of date
Documentation	Consignors to create transport document(s). Ensure all documentation is identified and accompanies each dangerous goods shipment.	Transport documentation must be held on record for 3 months
Dangerous Goods Safety Adviser	Do you require a DGSA to be formally appointed to your company or do you only require the services of a DGSA from time to time. Their role is to advise on legislation monitor and ensure proper procedures are in place.	A DGSA may be the head of the business, an employee or a consultant. Where formally appointed an annual report must be prepared and held on file for 5 years

Appendix 2

Where the dangerous goods carried in the transport unit belong to the same category, the maximum total quantity per transport unit is indicated in column (3) of the table below (ADR 1.1.3.6.3).

Transport category (1)	Substances or articles packing group or classification code/group or UN No. (2)	Maximum total quantity per transport unit (3)
0	Class 1: 1.1A/1.1L/1.2L/1.3L and UN No. 0190 Class 3: UN No. 3343 Class 4.2: Substances belonging to packing group I Class 4.3: UN Nos. 1183, 1242, 1295, 1340, 1390, 1403, 1928, 2813, 2965, 2968, 2988, 3129, 3130, 3131, 3134, 3148, 3396, 3398 and 3399 Class 5.1: UN No. 2426 Class 6.1: UN Nos. 1051, 1600, 1613, 1614, 2312, 3250 and 3294 Class 6.2: UN Nos. 2814 and 2900 Class 7: UN Nos. 2912 to 2919, 2977, 2978 and 3321 to 3333 Class 8: UN No. 2215 (MALEIC ANHYDRIDE, MOLTEN) Class 9: UN Nos. 2315, 3151, 3152 and 3432 and apparatus containing such substances or mixtures and empty uncleaned packagings, except those classified under UN No. 2908, having contained substances classified in this transport category.	0
1	Substances and articles belonging to packing group I and not classified in transport category 0 and substances and articles of the following classes: Class 1: 1.1B to 1.1J ^a /1.2B to 1.2J/1.3C/1.3G/1.3H/1.3J/1.5D ^a Class 2: groups T, TC ^a , TO, TF, TOC ^a and TFC aerosols: groups C, CO, FC, T, TF, TC, TO, TFC and TOC Class 4.1: UN Nos. 3221 to 3224 and 3231 to 3240 Class 5.2: UN Nos. 3101 to 3104 and 3111 to 3120	20
2	Substances or articles belonging to packing group II and not classified in transport categories 0, 1 or 4 and substances of the following classes: Class 1: 1.4B to 1.4G and 1.6N Class 2: group F aerosols: group F Class 4.1: UN Nos. 3225 to 3230 Class 5.2: UN Nos. 3105 to 3110 Class 6.1: substances and articles belonging to packing group III Class 9: UN No. 3245	333
3	Substances and articles belonging to packing group III and not classified in transport categories 0, 2 or 4 and substances and articles of the following classes: Class 2: groups A and O aerosols: groups A and O Class 3: UN No. 3473 Class 4.3: UN No. 3476 Class 8: UN Nos. 2794, 2795, 2800, 3028 and 3477 Class 9: UN Nos. 2990 and 3072	1 000
4	Class 1: 1.4S Class 4.1: UN Nos. 1331, 1345, 1944, 1945, 2254 and 2623 Class 4.2: UN Nos. 1361 and 1362 packing group III Class 7: UN Nos. 2908 to 2911 Class 9: UN No. 3268 and empty, uncleaned packagings having contained dangerous goods, except for those classified in transport category 0	unlimited










^a For UN Nos. 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017, the total maximum quantity per transport unit shall be 50 kg.





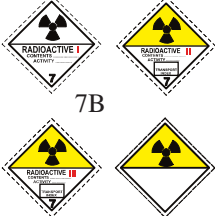



INSTRUCTIONS IN WRITING ACCORDING TO ADR
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Actions in the event of an accident or emergency

In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:



- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
(1)	(2)	(3)
Explosive substances and articles  1 1.5 1.6	May have a range of properties and effects such as mass detonation; projection of fragments; intense fire/heat flux; formation of bright light, loud noise or smoke. Sensitive to shocks and/or impacts and/or heat.	Take cover but stay away from windows.
Explosive substances and articles  1.4	Slight risk of explosion and fire.	Take cover.
Flammable gases  2.1	Risk of fire. Risk of explosion. May be under pressure. Risk of asphyxiation. May cause burns and/or frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Non-flammable, non-toxic gases  2.2	Risk of asphyxiation. May be under pressure. May cause frostbite. Containments may explode when heated.	Take cover. Keep out of low areas.
Toxic gases  2.3	Risk of intoxication. May be under pressure. May cause burns and/or frostbite. Containments may explode when heated.	Use emergency escape mask. Take cover. Keep out of low areas.
Flammable liquids  3	Risk of fire. Risk of explosion. Containments may explode when heated.	Take cover. Keep out of low areas.
Flammable solids, self-reactive substances and solid desensitized explosives  4.1	Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames. May contain self-reactive substances that are liable to exothermic decomposition in the case of heat supply, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours or self-ignition. Containments may explode when heated. Risk of explosion of desensitized explosives after loss of desensitizer.	
Substances liable to spontaneous combustion  4.2	Risk of fire by spontaneous combustion if packages are damaged or contents are spilled. May react vigorously with water	
Substances which, in contact with water, emit flammable gases  4.3	Risk of fire and explosion in contact with water.	Spilled substances should be kept dry by covering the spillages.

Danger labels and placards (1)	Hazard characteristics (2)	Additional guidance (3)
Oxidizing substances  5.1	Risk of vigorous reaction, ignition and explosion in contact with combustible or flammable substances.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Organic peroxides  5.2	Risk of exothermic decomposition at elevated temperatures, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours or self-ignition.	Avoid mixing with flammable or combustible substances (e.g. sawdust).
Toxic substances  6.1	Risk of intoxication by inhalation, skin contact or ingestion. Risk to the aquatic environment or the sewerage system.	Use emergency escape mask.
Infectious substances  6.2	Risk of infection. May cause serious disease in humans or animals. Risk to the aquatic environment or the sewerage system.	
Radioactive material  7A 7B 7C 7D	Risk of intake and external radiation.	Limit time of exposure.
Fissile material  7E	Risk of nuclear chain reaction.	
Corrosive substances  8	Risk of burns by corrosion. May react vigorously with each other, with water and with other substances. Spilled substance may evolve corrosive vapours. Risk to the aquatic environment or the sewerage system.	
Miscellaneous dangerous substances and articles  9	Risk of burns. Risk of fire. Risk of explosion. Risk to the aquatic environment or the sewerage system.	

NOTE 1: For dangerous goods with multiple risks and for mixed loads, each applicable entry shall be observed.

NOTE 2: Additional guidance shown above may be adapted to reflect the classes of dangerous goods to be carried and their means of transport.

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods, indicated by marks, and on actions subject to prevailing circumstances		
Mark	Hazard characteristics	Additional guidance
(1)	(2)	(3)
 Environmentally hazardous substances	Risk to the aquatic environment or the sewerage system	
 Elevated temperature substances	Risk of burns by heat.	Avoid contact with hot parts of the transport unit and the spilled substance.

**Equipment for personal and general protection
to carry out general actions and hazard specific emergency actions
to be carried on board the vehicle in accordance with Section 8.1.5 of ADR**

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

- for each vehicle, a wheel chock of a size suited to the maximum mass of the vehicle and to the diameter of the wheel;
- two self-standing warning signs;
- eye rinsing liquid^a; and

for each member of the vehicle crew

- a warning vest (e.g. as described in the EN 471 standard);
- portable lighting apparatus;
- a pair of protective gloves; and
- eye protection (e.g. protective goggles).

Additional equipment required for certain classes:

- an emergency escape mask^b for each member of the vehicle crew shall be carried on board the vehicle for danger label numbers 2.3 or 6.1;
- a shovel^c;
- a drain seal^c;
- a collecting container^c.

^a Not required for danger label numbers 1, 1.4, 1.5, 1.6, 2.1, 2.2 and 2.3.

^b For example an emergency escape mask with a combined gas/dust filter of the A1B1E1K1-P1 or A2B2E2K2-P2 type which is similar to that described in the EN 141 standard.

^c Only required for solids and liquids with danger label numbers 3, 4.1, 4.3, 8 or 9.

Appendix 4

ADR Table 1.10.5: List of high consequence dangerous goods – HCDG are those carried over the indicated quantity

Class	Division	Substance or article	Quantity		
			Tank ^c	Bulk ^d	Packages (kg)
1	1.1	Explosives	a	a	0
	1.2	Explosives	a	a	0
	1.3	Compatibility group C explosives	a	a	0
	1.4	Explosives of UN Nos. 0104, 0237, 0255, 0267, 0289, 0361, 0365, 0366, 0440, 0441, 0455, 0456 and 0500	a	a	0
	1.5	Explosives	0	a	0
2		Flammable gases (classification codes including only the letter F)	3000	a	b
		Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols	0	a	0
3		Flammable liquids of packing groups I and II	3000	a	b
		Desensitized explosives	0	a	0
4.1		Desensitized explosives	a	a	0
4.2		Packing group I substances	3000	a	b
4.3		Packing group I substances	3000	a	b
5.1		Oxidizing liquids of packing group I	3000	a	b
		Perchlorates, ammonium nitrate, ammonium nitrate fertilisers and ammonium nitrate emulsions or suspensions or gels	3000	3000	b
6.1		Toxic substances of packing group I	0	a	0
6.2		Infectious substances of Category A (UN Nos. 2814 and 2900, except for animal material)	a	0	0
7		Radioactive material	3000 A ₁ (special form) or 3000 A ₂ , as applicable, in Type B(U), B(M) or C packages		
8		Corrosive substances of packing group I	3000	a	b

^a Not relevant.

^b The provisions of 1.10.3 do not apply, whatever the quantity is.

^c A value indicated in this column is applicable only if carriage in tanks is authorized, in accordance with Chapter 3.2, Table A, column (10) or (12). For substances that are not authorized for carriage in tanks, the instruction in this column is not relevant.

^d A value indicated in this column is applicable only if carriage in bulk is authorized, in accordance with Chapter 3.2, Table A, column (10) or (17). For substances that are not authorized for carriage in bulk, the instruction in this column is not relevant.

Appendix 5

ADR Vehicle Inspection Checklist – Council Directive 95/50/EC

2.DATE:

3.TIME:

1.PLACE OF CHECK			
4. VEHICLE NATIONALITY MARK AND REGISTRATION NUMBER			
5. TRAILER/SEMI-TRAILER NATIONALITY MARK AND REGISTRATION NUMBER			
6. UNDERTAKING CARRYING OUT TRANSPORT/ADDRESS			
7. DRIVER / DRIVER'S ASSISTANT			
8. CONSIGNOR, ADDRESS, PLACE OF LOADING (1) (2)			
9. CONSIGNEE, ADDRESS, PLACE OF UNLOADING (1) (2)			
10. TOTAL QUANTITY OF DANGEROUS GOODS PER TRANSPORT UNIT			
11. ADR 1.1.3.6 QUANTITY LIMIT EXCEEDED	YES		NO
12. MODE OF TRANSPORT	IN BULK	PACKAGE	TANK

DOCUMENTS ON BOARD	INSPECTED	INFINGEMENT	NOT APPLICABLE
13. TRANSPORT DOCUMENT			
14. INSTRUCTIONS IN WRITING			
15. BILATERAL/MULTILATERAL AGREEMENT/NATIONAL AUTHORIZATION			
16. CERTIFICATE OF APPROVAL FOR VEHICLES			
17. DRIVER'S TRAINING CERTIFICATE			

TRANSPORT OPERATION			
18. GOODS AUTHORIZED FOR TRANSPORT			
19. VEHICLES AUTHORIZED FOR GOODS CARRIED			
20. PROVISIONS RELATED TO THE MODE OF TRANSPORT (BULK, PACKAGE, TANK)			
21. MIXED LOADING PROHIBITION			
22. LOADING, SECURING OF THE LOAD AND HANDLING (3)			
23. LEAKAGE OF GOODS OR DAMAGE TO PACKAGES (3)			
24. UN PACKAGING MARKING / TANK MARKING (2) (3) (ADR 6)			
25. PACKAGE MARKING (E.G. UN NO.) AND LABELLING (2) (ADR 5.2)			
26. TANK / VEHICLE PLACARDING (ADR 5.3.1)			
27. VEHICLE / TRANSPORT UNIT MARKING (ORANGE PLATE, ELEV. TEMP.) (ADR 5.3.2-3)			

EQUIPMENT ON BOARD			
28. General purpose safety equipment specified in ADR			
29. Equipment according to the goods carried			
30 .Other equipment specified in the instructions in writing			
31. Fire Extinguisher(s)			

32. THE MOST SERIOUS RISK CATEGORY OF ESTABLISHED INFRINGEMENTS, IF ANY

☐ CATEGORY I

☐ CATEGORY II

☐ CATEGORY III

33.Remarks:

34. AUTHORITY/ OFFICER HAVING CARRIED OUT THE INSPECTION:

.....

(1)TO BE FILLED ONLY IF RELEVANT FOR AN INFRINGEMENT

(2)TO BE STATED UNDER "REMARKS" FOR GROUPAGE TRANSPORT OPERATIONS

(3)CHECK OF VISIBLE VIOLATIONS

Appendix 6 - Guidelines for the carriage of fuel in bowzers:

1. These guidelines allow:

(a) **owners of bowzers** intended for the carriage of the dangerous goods listed in paragraphs 2 and 3 to deem certain bowzers to be Intermediate Bulk Containers (IBCs) provided they comply with the bowser specifications and conditions set out in paragraph 4.

(b) **consignors and packers** to consign and fill the dangerous goods listed in paragraphs 2 and 3 in such bowzers provided they comply with the alternative provisions specified in paragraphs 5 and 6.

Dangerous goods covered by these guidelines

2. UN 1202 DIESEL FUEL complying with standard EN 590:2004 or GAS OIL or HEATING OIL, LIGHT with a flash-point as specified in EN 590:2004
3. UN 1202 GAS OIL or DIESEL FUEL or HEATING OIL, LIGHT (flash-point more than 60°C and not more than 100°C)

Specifications for bowzers deemed to be IBCs

4. A bowser manufactured before 1 July 2003 may be regarded as an intermediate bulk container (IBC) provided the following conditions are met
 - (a) it shall have a capacity of not more than 3,000 litres;
 - (b) it shall be designed for mechanical handling;
 - (c) it shall be resistant to the stresses produced in handling and carriage;
 - (d) it shall not be permanently fixed to a motor vehicle or trailer, but may be temporarily fastened for safety during carriage. Such fastenings include purpose designed retention devices and may have screw fasteners;
 - (e) it shall remain safe and suitable for the carriage of UN 1202;
 - (f) it shall be submitted for periodic re-inspection if directed by the Competent Authority;
 - (g) the owner shall ensure that the consignor and carrier are informed of the terms of this approval.

Alternative provisions for consignors and packers

5. Provided the IBCs remain safe and suitable for the carriage of UN1202 the consignor and packer shall be exempt from the following provisions:
 - (a) the consignor only using IBCs approved for and suited to the carriage of UN1202 and bearing the marks prescribed by ADR, as required by 1.4.2.1.1 (c) of ADR;
 - (b) the packer complying with packing conditions as required by 1.4.3.2(a) of ADR.
6. Provided the IBCs remain safe and suitable for the carriage of UN1202, the consignor and packer shall be exempt from the following provisions:
 - (a) the requirement for IBCs to conform to a design type successfully tested in accordance with the requirements of 6.5.4 as required by 4.1.1.3 of ADR;
 - (b) the requirement for remanufactured, reused, reconditioned or repaired IBCs to be capable of passing the tests prescribed in 6.5.4 as required by 4.1.1.9 of ADR;
 - (c) the requirement for IBCs to successfully undergo a suitable leakproofness test and be capable of meeting the appropriate test level indicated in 6.5.4.7 as required by 4.1.1.12 of ADR;
 - (d) the additional general provisions for IBCs as required by 4.1.2 of ADR;
 - (e) the general provisions concerning packing instructions as required by 4.1.3 of ADR;
 - (f) the provisions concerning packing instruction IBC03 as required by 4.1.4 of ADR.