



ADR

Carriage of
Dangerous
Goods by Road
**A Guide For
Business**





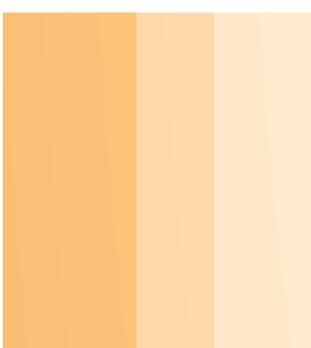
A national culture where all
commit to safe and healthy
workplaces and the safe and
sustainable management of
chemicals



ADR

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A Guide For Business



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1. Introduction and Definitions

This guide for business is geared towards 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.

The 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)**. In instances where access to the detailed provisions of the ADR is required, it is available and free to download at http://www.unece.org/trans/danger/publi/adr/adr_e.html.

All businesses that carry significant quantities of dangerous goods by road have 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 such businesses may still require a DGSA from time to time and this guidance is not intended to replace that expertise. It is intended to allow all businesses to be better informed in the decisions made in the process of ensuring compliance with current legislation and in controlling risk when handling dangerous goods.

In order to assist businesses in their understanding of the level of activity at which they may be required by law to appoint a DGSA, the HSA has produced guidance which provides some clarification. This 'Guidance on the Appointment of a Dangerous Goods Safety Adviser' is available for free download on the HSA website at [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 your compliance with the legislation and will give you greater confidence in your efforts to control risk.

For many businesses the extent of involvement with dangerous goods is limited and for such businesses the relevant legislation provides many exemptions (provided in Section 5). This guide includes a number of worked examples in Section 19 in order to help you quickly identify what provisions may or may not apply to you.

Where further advice, explanation or guidance is necessary you may contact the HSA or a DGSA.

1. Introduction and Definitions

1.1 Definitions

Terms used in this guidance have the same meaning as in the 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;
- ◆ “**ICAO technical instructions**” means the technical instructions published by the International Civil Aviation Organisation;
- ◆ “**IMDG Code**” means the International Maritime Dangerous Goods Code;
- ◆ “**MEGC**” means a multiple-element gas container;
- ◆ “**MEMU**” means a mobile explosives manufacturing unit;
- ◆ “**NRA**” means 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;
- ◆ “**Placards**” are large hazard labels used on vehicles/tanks;
- ◆ “**RID**” means the regulations concerning the international carriage of dangerous goods by rail;
- ◆ “**RSA**” means the Road Safety Authority;
- ◆ “**Tank**” means a shell including its service and structural equipment. When used alone the term 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 and 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 it in line with each new edition of the ADR. Current regulations can be obtained from the HSA ADR web pages (link provided in Sections 1 and 20).

This guide has been prepared with reference to current national legislation and the current edition of the ADR. Although care has been taken to make such references as non-specific as possible, it is advised that you take account of the biennial updating of the ADR, and consequential updates to national legislation.

National legislation provides for general participant duties, the practical safe transport of dangerous goods, competent authorities, powers of enforcement, offences and penalties.

The competent authorities which perform functions under the regulations are the



Minister for Justice and Equality (in respect of the carriage of explosive substances);



Radiological Protection Institute of Ireland (in respect of the carriage of radioactive materials);



Road Safety Authority (in respect of the technical examination of vehicles and the issue of annual certificates of approval);



National Roads Authority (in respect of carriage of dangerous goods through tunnels);



National Standards Authority of Ireland (in respect of certification and conformity assessment);



Irish National Accreditation Board (in respect of accreditation of inspection bodies).



HSA (in respect of all other functions required to be performed by a competent authority pursuant to relevant road transport statutory provisions).

2. Road transport legislation and other modes of transport

The regulations provide a number of “National Transport Exemptions”, for the carriage of dangerous goods within the State.

The regulations refer to the ADR, which provides details on all aspects of dangerous goods transport, from design and construction of road tankers to training requirements of individuals. The regulations provide for duty holders (participants) with specific responsibilities. Such responsibilities are listed in the ADR, and 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.** A DGSA will be competent in providing advice on the safe transport of dangerous goods by road, but may also be trained in relation to other modes of transport. It is recommended that you check with your DGSA as to his/her areas of competency.

International mode of transport rules:

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



All similar to ADR but with some mode-specific requirements

The representative bodies for carriage by air, sea and rail are, respectively, the Irish Aviation Authority, the Department of Transport (Marine Survey Office) and the Railway Safety Commission.

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 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 which mixes/produces 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 hands 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 and signed by all parties involved.

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 minimise 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 jeopardised, 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 that they 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, whose duties concern the carriage of dangerous goods, has received the appropriate training;

3. General safety measures and the main duty holders

- 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 (or has control of) the dangerous goods prior to transportation and may act either on its own behalf or for a third party, for example a manufacturer, supplier, forwarding warehouse, etc. If transportation is carried out under a contract of carriage involving the transfer of some or all legal duties, then “consignor” means the consignor according to the contract.



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 must inform the consignor in writing that dangerous goods are involved and make available to him or her all the information and documents needed to perform the consignor's obligations.

3. General safety measures and the main duty holders

The consignor must in particular:

- (a) Ascertain that the dangerous goods are classified (see Section 7) and authorised for carriage in accordance with ADR;
- (b) Furnish the carrier with information and data and, if necessary, the required transport documents (see Section 13) and accompanying documents (authorisations, approvals, notifications, certificates, etc). The consignor must ensure that a carrier is informed in advance of the nature of the dangerous goods to be picked up and, when a driver arrives on site, ensure that all necessary documentation is provided;
- (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 8–10);
- (d) Comply with the requirements on the means of dispatch and on forwarding restrictions (refer to Sections 8–12);
- (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 are leakproof to the same degree as when they are full;
- (f) Comply with security measures as appropriate (see Section 15);
- (g) Ensure that on handing dangerous goods over to a driver, he or she is carrying an appropriate driver training certificate and photo identification;
- (h) Ensure emergency procedures are in place (see Section 16);
- (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 or she must take appropriate measures to ensure that the consignment meets the requirements of ADR. The consignor may, however, in the case of (a), (b), (c) or (e), rely on the information and data made available by other participants.

3. General safety measures and the main duty holders

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), for example a logistics company, courier, vehicle owner/operator (who may also be the consignor or driver, as a self-employed vehicle owner/operator).



The carrier must in particular:

- (a) Ascertain that the dangerous goods to be carried are authorised 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 13) and 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. And ensure this is carried out by putting in place a monitoring/audit procedure to assess vehicles and equipment;

3. General safety measures and the main duty holders

- (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 14). 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 9–10);
- (g) Ascertain that the equipment prescribed in the written instructions for the driver is on board the vehicle (see Section 13.4). This must also take account of fire extinguisher requirements (see Section 11.2);
- (h) Comply with security measures as appropriate (see Section 15);
- (i) Ensure emergency procedures are in place (see Section 16);
- (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 should be done on the basis of information provided by transport documents and accompanying documents, or 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) or (f), rely on information and data made available to him or her by other participants (e.g. consignor, loader, packer or filler).

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

If during the journey, an infringement which could jeopardise the safety of the operation is observed, the consignment must 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. General safety measures and the main duty holders

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 he or she must hold an appropriate driver training certificate.



Drivers and/or crew members must in particular:

- (a) Ensure they carry on their person their ADR driver training certificate (drivers) and photo i.d. (all crew members);
- (b) Ensure that they have read and understood transport documentation provided in advance of any transport operation. If an issue does arise with the documentation the crew members must raise and rectify any matter prior to driving the vehicle;
- (c) Keep written emergency instructions readily available in the cab;
- (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. And when they are not required remove or cover plates, placards and marks;
- (f) Ensure that damaged or leaking packages are not loaded;
- (g) Ensure they do not drive a vehicle they suspect is not in compliance with national legislation or the ADR and raise and rectify any issues prior to driving the vehicle;
- (h) Ensure that apart from members of the vehicle crew, no passengers are carried in transport units carrying dangerous goods;

3. General safety measures and the main duty holders

- (i) Ensure that members of the vehicle crew know how to use the fire-fighting extinguishers;
- (j) Not open a package containing dangerous goods;
- (k) Ensure that any torch or lighting apparatus used does not exhibit any metal surface liable to produce sparks;
- (l) Ensure that smoking is prohibited during handling operations in the vicinity of vehicles and inside the vehicles;
- (m) Ensure that the engine is shut off during loading and unloading operations, except where it 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) Ensure that no vehicles carrying dangerous goods are parked without the parking brakes being applied. And that trailers without braking devices are restrained from moving by applying at least one wheel chock;
- (o) Ensure that in the case of a transport unit equipped with an anti-lock braking system consisting of a motor vehicle and trailer, the electrical connections connect the towing vehicle and the trailer at all times during carriage;
- (p) If responsible for tank filling or emptying, ensure as may be appropriate (e.g. for flammable liquids) 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 adhere 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, ensure dangerous goods are properly secured to the vehicle. If released to unload part of the shipment, remaining dangerous goods must be resecured to the vehicle (see Section 12);
- (s) Ensure that vehicle supervision provisions are adhered to (see Section 12.5).

3. General safety measures and the main duty holders

3.5 Packer

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



The packer must 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 12.2 and 12.3);
- (b) Comply with the requirements concerning marking and labelling of the packages when preparing packages for carriage (see Section 8).

3.6 Filler

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

The filler must in particular:

- (a) Ascertain prior to the filling of tanks that both they and their equipment are in a satisfactory technical 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 authorised 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 that the closing devices are leakproof;
- (g) Ensure that no dangerous residue of the filling substance adheres to the outside of the tanks filled by him or her;

3. General safety measures and the main duty holders

- (h) Ensure that, in preparing the dangerous goods for carriage, 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) Ascertain that, when filling vehicles or containers with dangerous goods in bulk, the relevant provisions of ADR Chapter 7.3 (bulk provisions) are complied with.

3.7 Loader

The loader is the participant (individual or business) who is responsible for loading dangerous goods onto a vehicle prior to transportation.

The loader must in particular:

- (a) Hand the dangerous goods over to the carrier only if they are authorised 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 or she must not hand over a package if its packaging 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;



3. General safety measures and the main duty holders

- (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) or (e), rely on information and data made available to him or her by other participants.

3.8 Tank-container/portable tank operator

The tank-container/portable tank operator is the participant (individual or business) who is responsible for the operation of a tank-container/portable tank.

The tank-container / portable tank operator must 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 (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 must 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, ensure that unloading is not carried out until appropriate measures have been taken;

3. General safety measures and the main duty holders

- (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;
- (f) Ensure that the containers once completely unloaded, cleaned and decontaminated, no longer display danger markings conforming to ADR Chapter 5.3 (See also section 9);
- (g) If the unloader makes use of the services of other participants (cleaner, decontamination facility etc) he or she must 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 (individual or business) who takes charge of the dangerous goods when delivered.

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 placed on the consignee have been complied with;



3. General safety measures and the main duty holders

- (b) If, in the case of a container, this verification brings to light an infringement of the requirements of ADR, the consignee must 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 or she must take appropriate measures to ensure that the requirements of (a) and (b) have been complied with.



4. Dangerous goods safety advisers (DGSA's)

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 unloads at the final destination 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. DGSAs generally complete training (not mandatory) and must be successful in passing specified exam(s) to gain the qualification, which must be renewed every five years.

There are exemptions provided for businesses with limited exposure to these activities so that they are not required to formally appoint a DGSA. However, they 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.

The main duties of a DGSA are as follows:

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

5. Exemptions

ADR and national regulations both specify exemptions/derogations: 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 19.

5.1 ADR exemptions (ADR 1.1.3)

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) 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 1.1.3.6 (small load exemptions, Section 5.2). Measures must be taken to prevent any leakage of contents in normal conditions of carriage. These exemptions do not apply to Class 7 (radioactive materials).
This exemption is not available for transport (supply and distribution) or courier companies, irrespective of the quantity of dangerous goods.

Qualifying 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;

5. Exemptions

- Carriage of oxygen cylinders for use in emergency situations / first-aid
- Carriage of flammable paints and varnish by a painter;
- Carriage of farm supplies by the farmer;
- Community nurses/doctors carrying clinical waste;
- Sales reps carrying “example” samples not for distribution.

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

Note, however, that carriage undertaken by such enterprises for their own supply or external or internal distribution does not fall within the scope of this exemption and therefore may be subject to other provisions of the regulations and ADR. This is likely to be the case for larger organisations that operate a dedicated distribution vehicle.

For example:

If you purchase flammable paints directly from a wholesaler and load these into the vehicle for immediate use or delivery to your place of work or a job site, then this activity qualifies for the exemption. However, if the purpose of collecting flammable paints from a wholesaler is to deliver them to your own depot or to distribute to one or more sites and this activity is the main job of the driver and vehicle (distribution/supply of material which includes dangerous goods), then this would not be considered as qualifying for this exemption.

For those who do not qualify for this exemption, see also the exemption for small loads in Section 5.2, which may apply.

Note 1: For practical example see Section 19, Example 1;

Note 2: Although not required by ADR, it is considered good practice to attach labels to the vehicle to indicate the hazards pertaining to the dangerous goods being carried. Such labels (magnetic or otherwise) should be removed from the vehicle when it is no longer carrying dangerous goods.

- (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;

5. Exemptions

- 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 it will not become loose or shift during normal conditions of carriage.

This exemption does not apply to static storage vessels which have contained desensitised 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 must 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.

5. Exemptions

(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 which are directly connected to the vehicle's engine and/or auxiliary equipment and 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 must not exceed 1,500 litres per transport unit and the capacity of a tank fitted to a trailer must not exceed 500 litres. A maximum of 60 litres per transport unit may be carried in portable fuel containers. These restrictions must 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 must be closed during carriage unless it is essential for the equipment to remain operational. Where appropriate, the vehicles or other means of conveyance must 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 of and calculations carried out 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 of the table.

- (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.

For example, Class 2 aerosols group F (flammable aerosols), may be carried under the exemption in quantities of up to 333 litres when no other dangerous goods are carried (taken from table in Appendix 2);

- (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 1,000 units. However, each category must also be multiplied by the appropriate multiplying factor before adding each category together (refer to Table 1 for multiplying factors).

5. Exemptions

Table 1.

Transport Category	Multiplying Factor
1	50
1*	20
2	3
3	1
Sum of dangerous goods must not exceed 1,000	

* For UN No's 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017

Note: For practical examples see Section 19, Examples 2, 3 and 4.

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

- Security provisions (see Section 15);
- Placarding and marking; i.e. vehicles do not require orange plates and containers do not require placards;
- Instructions in writing;
- Vehicle certification;
- Driver training certification.

Additionally under this exemption, the following provisions are reduced:

- Packing provisions;
- Restrictions in public places;
- Requirements for vehicle crews, equipment, operation and documentation (except for those listed below which still apply).

5. Exemptions

Requirements that still apply when availing of a small load exemption (for full details refer to ADR 1.1.3.6.2):

- **Transport document must be carried in the vehicle (indicating the total quantity for each transport category);**
- **Vehicle must be equipped with a suitable 2 kg fire extinguisher;**
- **Driver and crew must have received appropriate general training;**
- **Driver and crew must not open dangerous goods packages;**
- **There must be no smoking during handling in or around the vehicle;**
- **Any torch carried must be non-sparking.**

For application of this exemption, the table in Appendix 2 can be used if you know the transport category of the substance. If the transport category is not known, it can be established by consulting Table A in Chapter 3.2 of the ADR (the transport category is provided in Column 15). In order to use Table A, however, the UN number/class/packing group of the substance must be identified. Such information may be obtained from Safety Data Sheets, which should be provided with all hazardous chemicals (Section 13 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](#)

5.3 National exemptions (national regulations)

The national regulations specify additional “national” exemptions for carriage of dangerous goods within the State only.

Some of these exemptions deal with certification of older vehicles and tanks (pre-2002 for vehicles and pre-2003 for tanks). These issues can be complex, so if you are 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;

5. Exemptions

- 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 given in current carriage of dangerous goods legislation available from the HSA web site.

5.4 Limited quantities (LQ)(ADR 3.4)

Limited quantity exemptions are applicable to the carriage of dangerous goods of certain classes packed in specified small packaged quantities (e.g. 5 kg or 5 litres maximum per inner package). Each inner package must be placed in suitable outer packaging with a gross mass limit of 30 kg (inner packages and outer packaging total weight not to exceed 30 kg). Shrink-wrapped trays may also be used as outer packaging, with a package limit of 20 kg.

When the provisions of this exemption are met, although the dangerous goods are contained in individual small packages and grouped in units up to 30 kg, **there is no limit to the total quantity per shipment** that may be carried in this way. A 40 foot container full of limited quantity goods, for example, can benefit from this exemption. This is in contrast with the small load exemption (see Section 5.2), which limits the total quantity per shipment.

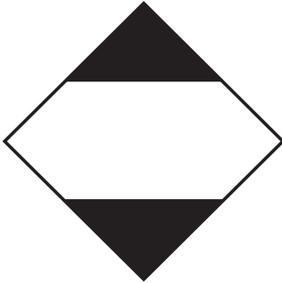
The **packaging specified does not need to be UN approved**, but must be suitable and of good quality.

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.

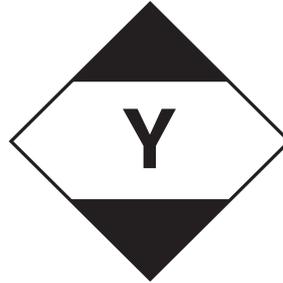
Packages containing dangerous goods in limited quantities must bear the marking in Figure 1 for the indicated modes of transport (mark must be 100mm x 100mm, diamond outline of at least 2mm). When transporting goods in accordance with air requirements and the air mark is applied, this mark is accepted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

Fig. 1

Road/Rail/Sea mark



Air



Alternative marks **may be used until June 2015** for road transport. Until that 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 given above and numbers or letters to be at least 6mm high), see examples in Figure 2.

Fig. 2

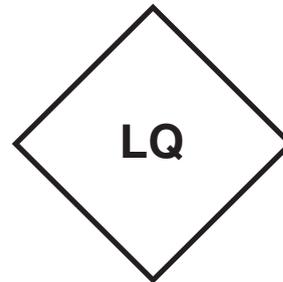


Figure 3 below indicates packaging with a limited quantity mark applied.

Fig. 3



5. Exemptions

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 the same mark as for packages front and rear of vehicle (See section 5.4.1)
- 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) (See also section 13.3).

Some provisions do still apply, such as the **relevant provisions** concerning orientation marks, use of over-packs and vehicle/container packing certificates. Such provisions are set out in ADR 3.4.

Note also that for shipments involving sea or air transport some of the above exemptions do not apply. For example, a dangerous goods note (transport document) is still necessary for LQ shipments by sea, and so will be required for any transport operation that includes a sea crossing.

5.4.1 Vehicle marking carrying limited quantity packages

Transport units over 12 tonnes (gross vehicle mass), carrying more than 8 tonnes of limited quantity packages must display the mark indicated in Figure 1 (or Figure 2) in the form of a placard (large label or placard dimensions should be 250mm x 250mm). In advance of carriage, consignors of dangerous goods packed in limited quantities must inform the carrier in a traceable form of the total gross mass of such goods to be consigned.

If the vehicle requires the ADR blank orange plate marking because of other dangerous goods being carried then the LQ placards are not required. For further advice on limited quantities you should consult a DGSA.

Note: For practical example see Section 19, Example 5.

5. Exemptions

5.5 Excepted quantities (ADR 3.5)

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

Once you have complied with the basic training requirements, classification procedures and packaging, labelling and quantity limitations, no other provisions apply to the transport of dangerous goods in excepted quantities.

ADR specifies an “E code” for all dangerous goods in Chapter 3.2, Table A, Column 7(b), which specifies the excepted quantities for outer and inner packaging, indicated in Table 2.

Table 2.

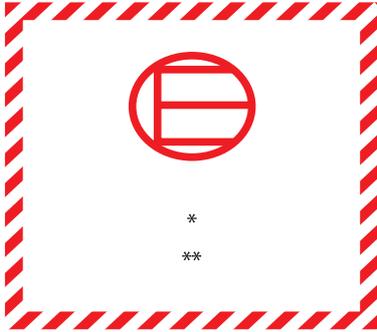
Code	Maximum net quantity per inner packaging (in grams for solids and ml for liquids and gases)	Maximum net quantity per outer packaging (in grams for solids and ml for liquids and gases, or sum of grams and ml in the case of mixed packing)
E0	Not permitted as excepted quantity	
E1	30	1,000
E2	30	500
E3	30	300
E4	1	500
E5	1	300

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

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

5. Exemptions

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 Table A of Chapter 3.2 (Column 5) must 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, must be trained in the requirements governing the carriage of such goods appropriate to their responsibilities and duties.

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

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

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

A copy of training records must be provided to employees.

Training records must be verified upon commencing new employment.

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

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

Personnel must also be trained to a level directly commensurate with their **duties and responsibilities** under the requirements of the regulations concerning the carriage of dangerous goods.

Where the carriage of dangerous goods involves a multi-mode transport operation, the personnel must be made aware of the requirements concerning other transport modes.

Personnel must be trained in the hazards and dangers presented by dangerous goods to a level commensurate with the degree of risk of injury or exposure arising from an incident involving such dangerous goods. The training provided must aim to make personnel aware of the safe handling and emergency response procedures.

Training must include elements of security awareness, including addressing 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 must also include awareness of

6. Training and training records

security plans (if appropriate) commensurate with the responsibilities and duties of individuals and their part in implementing those plans.

All training must be supplemented periodically with refresher training to take account of changes in regulations, i.e. at least every two years to coincide with each new edition of the ADR.

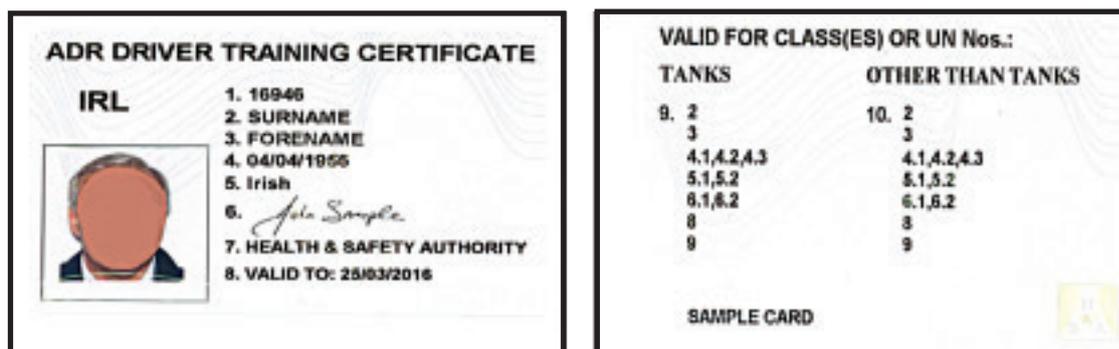
Training may be conducted by the organisation if it is competent to do so, or provided by a commercial training company. Details of the content of the training must be recorded and made available for inspection.

6.2 Driver training and examination

Drivers of vehicles carrying dangerous goods must 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 certificate, in accordance with ADR 2011 (see Fig. 5).

Fig. 5



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 on the certificate.

Drivers must undergo refresher training and examination every five years. Basic training is available to all, and there is the option for additional specialised training for tanks, Class 1 (explosive) substances and Class 7 (radioactive) substances.

6. Training and training records

ADR driver training certificates are mutually 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](#)

Formal driver training does not remove the requirement for employers to identify and provide job specific training.

6.3 DGSA training and examination

Unlike for driver training courses, there are no approved training providers for DGSA's, nor is it mandatory to attend training provided by commercial trainers. It is left to individuals to self-educate or attend a training course as their situation dictates prior to sitting the mandatory examination.

DGSAs who wish to continue in their role must re-sit the DGSA examination every five years, and are expected to maintain competence over the five year period of validity of the certificate by keeping up to date with any changes in legislation and guidance issued by competent authorities.

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 because of 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:

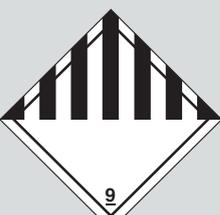
[Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)

7.1 Principles of classification

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

7. Dangerous goods classification

Table 3.

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

7. Dangerous goods classification

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 nine main hazard classification groups 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.

For example, petrol is a flammable liquid, “Class 3” and is assigned the unique UN number UN 1203.

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

On the basis of its properties (i.e. the flash point), petrol is allocated to PG II.

For transport, all dangerous goods must be identified correctly and this information must be presented in a certain way (see “transport document” in Section 13.2 of this guidance).

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

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

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

For example, “UN1230, Methanol, 3(6.1), PG II”

i.e. a Class 3, flammable liquid with a secondary hazard, Class 6.1, toxic.

All substances must be classified prior to transportation 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 for each mode of transport and expert advice should be sought.

8. Packaging, marking and hazard labelling

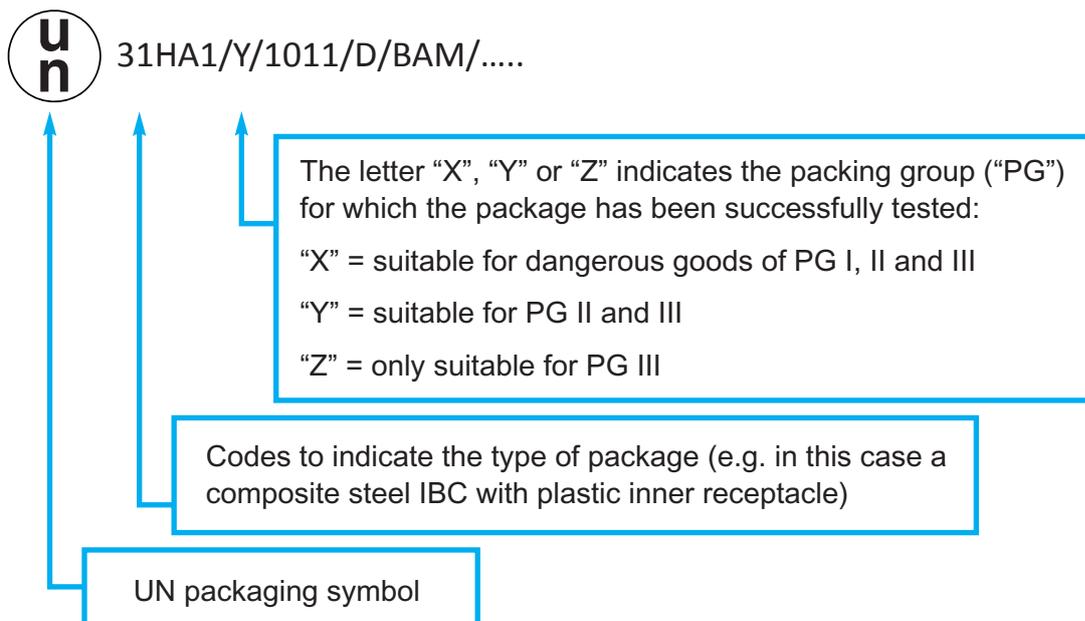
It is the responsibility of the consignor to ensure that packaging, and subsequent marking and labelling of such packaging, is appropriate and suitable for the substances, mixtures and articles consigned for carriage by road. It is recommended that you seek the **advice of a DGSA** when carrying out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

8.1 Packaging and marking

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

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



8. Packaging, marking and hazard labelling

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. The various packaging instructions for individual UN numbers are provided in the ADR Dangerous Goods List (Chapter 3, Table A, Column 8).

Not all packaging, even when tested and approved, is suitable for all dangerous goods: dangerous goods and packaging must be correctly matched. Always discuss your requirements with packaging suppliers.

Fig. 8

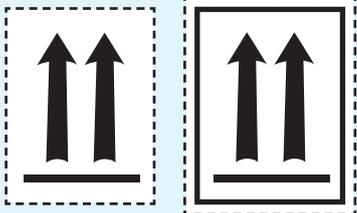
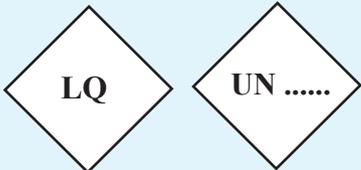
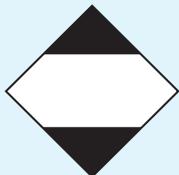
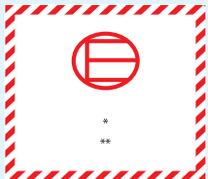


Marking to indicate that the packaging is UN approved

Examples of **additional marks** which may be required on packages for transport are provided in Table 5.

8. Packaging, marking and hazard labelling

Table 5.

Marks	Remarks
	<p>Environmentally hazardous substance (EHS) mark</p> <p>Not required for packaging consisting of containers of less than 5 kg/5 l</p>
	<p>Orientation arrows for:</p> <ul style="list-style-type: none"> • Combination packaging having inner packaging containing liquids • Single packaging fitted with vents • Cryogenic receptacles intended for the carriage of refrigerated liquefied gases <p>Apply on two opposite sides</p>
	<p>Elevated temperature substances mark Applied to tanks, tank-containers etc.</p> <p>Mark is not for packages</p>
	<p>Limited quantity marks (usable up to June 2015)</p>
	<p>Limited quantities mark (except for air transport)</p>
	<p>Limited quantities mark for air transport (accepted in all modes of transport)</p>
	<p>Excepted quantities mark</p>

8. Packaging, marking and hazard labelling

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), ADR requires you to apply the substance UN number.

Packages generally require labels, appropriate mark(s) and a UN number only once on the outer surface of the package. Ideally, if the package size allows, all labels should be displayed on one side, without overlapping or being obscured by other labelling. For IBCs and large packages (450 litres to 3,000 litres capacity), the labels and marks are required on two opposite sides.

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

If “**overpacking**” is applied (e.g. shrink-wrapping or adding another layer of packaging for transport) and the marks and labels are obscured, all such marks and labels must be re-applied along with the word “OVERPACK”, which must be placed on the outer packaging. If all marks and labels can be seen (e.g. through only one or two layers of shrink-wrap) then this provision is not required.

8. Packaging, marking and hazard labelling

8.2.1 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.

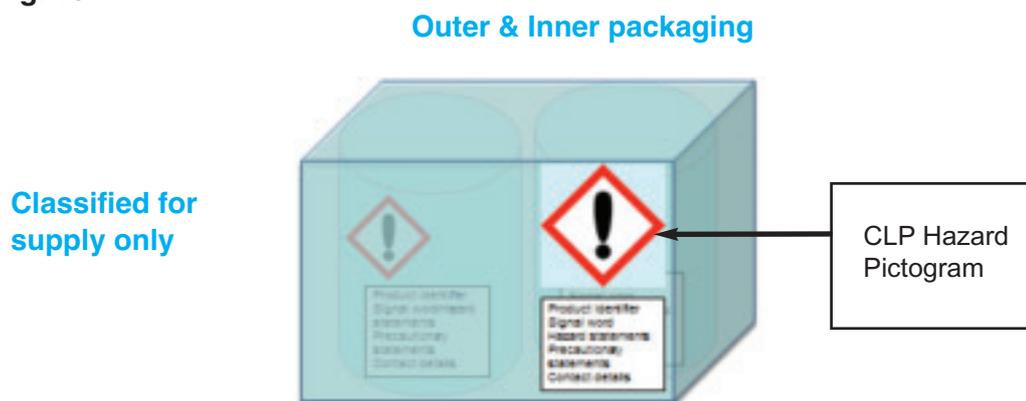
The following points are of note:

- (A) 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 sensitisation, and would display the labels as indicated in Figure 10;

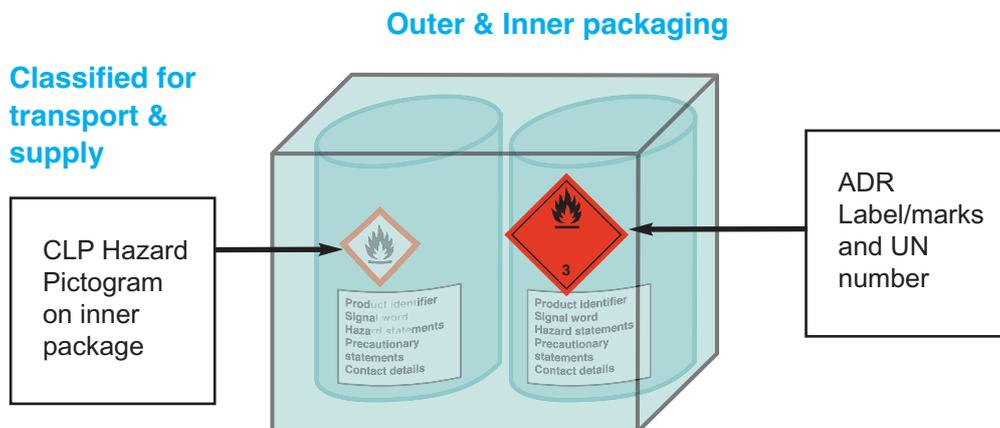
Fig. 10



- (B) 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;

8. Packaging, marking and hazard labelling

Fig. 11



- (C) 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

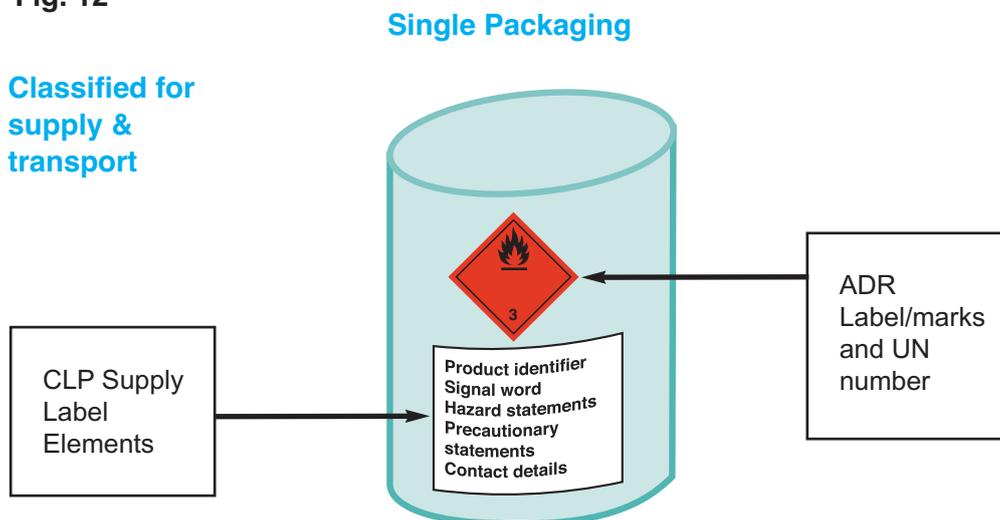


Figure 13 provides an example of a single packaging (e.g. a 200 litre drum) label for a mixture classified under ADR and CLP criteria. Transport and CLP label elements must be shown on the packaging. The CLP pictograms for flammability, dermal toxicity and aquatic hazards (acute and chronic) have been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

Note: Labels are not to scale

8. Packaging, marking and hazard labelling

Fig. 13

Product identifier	UN number	CLP hazard Pictograms	Transport labels
<p>CODE PRODUCT NAME</p> <p>UN NUMBER PROPER SHIPPING NAME</p>	<p>Danger Highly flammable liquid and vapour. Toxic if inhaled. Toxic in contact with skin. Toxic if swallowed.</p>		
<p>COMPANY NAME Street Address Postal Code Country Phone Number Emergency phone number</p> <p>DIRECTIONS FOR USE</p>	<p>Keep away from heat/sparks/open flames/hot surfaces. –No smoking. Keep container tightly closed. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of soap and water. IF exposed: Immediately call a POISON CENTRE or doctor/physician</p>		
Supplier information	Signal Words	Hazard Statements	Precautionary Statements

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 ADR 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 vehicles are carrying containers, the freight container must also be labelled or “placarded” with the appropriate class label on all four sides (Figure 14).

9. Vehicles, marking and labelling

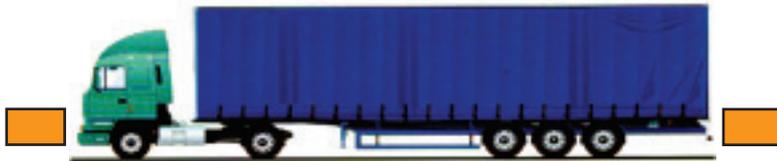
Fig. 14

Vans/box vans/curtain sided vehicles:

Orange plates placed front and rear of the vehicle.

No placards.

If boarding a ship the relevant placards must be applied on the sides and rear.



Freight containers:

Orange plates placed front and rear of the vehicle.

Relevant placards on both sides and each end.



Figure 15 provides an example a blank orange plate and a class hazard placard, and the minimum dimensions required for each.

Fig.15



ADR blank orange plate, 400mm x 300mm, border line, black 15mm in thickness (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 must have minimum dimensions of 250mm x 250mm.

9. Vehicles, marking and labelling

When carrying goods in bulk (unpackaged loose material) the vehicle must also be labelled or “placarded” with the appropriate class label on both sides and rear. Bulk vehicles must also identify the goods by using the numbered orange plates on both sides of the bulk container in addition to blank orange plates at the front and rear.

Note: Packaged goods vehicles that normally do not require placards (e.g. vans and curtain sided vehicles) are required to have them for a sea crossing, and when marked for this purpose they are accepted for road journeys immediately before or after a sea crossing.

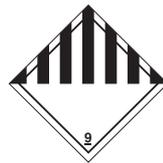
10. Tanks, marking and labelling

Tanks (tank-container, portable tank, fixed tank, demountable tank, battery-vehicles and MEGCs) 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 at the front and rear of the vehicle, hazard placards and other marks as required on each side of the tank and at the rear). Alternative marking methods are specified in ADR. Blank orange plates may be used at the front and rear of the vehicle with numbered orange plates on each side of the tank. Figure 16 provides an example of such side tank marking with numbered orange plate, class hazard placard and an elevated temperature mark (red triangle with thermometer).

Fig. 16



When different goods are carried in a multi-compartment tank, side marking is used when marking each separate compartment.

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

11. 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 safety equipment and ensure it is provided and maintained in good working order.

11.1 Mandatory equipment

The following equipment is mandatory.

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 carry 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.).

11. Vehicle safety equipment/personal protective equipment

Note: Instructions in writing (or “Tremcard” – transport emergency card) contain emergency action information for crew members, and a list of mandatory personal and vehicle safety equipment (excluding fire extinguisher requirements). Such mandatory equipment is listed on page four of the instructions in writing (see Appendix 3). See also Section 13, which outlines what documentation should be carried on the vehicle.

Refer to the HSA ADR poster series for a summary of this information, available on the HSA web site: [Health and Safety Authority - ADR Landing Page](#).

11.2 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.

Scenario	Requirement
All transport units	Minimum of a 2 kg 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 12 kg dry powder (or equivalent) – at least one extinguisher being minimum of 6 kg 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 8 kg dry powder (or equivalent) – at least one extinguisher being minimum of 6 kg 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 4 kg dry powder (or equivalent)
Transport Units exempted under Small Load Exemption (ADR 1.1.3.6)	Minimum of a 2 kg dry powder (or equivalent) extinguisher – suitable for fighting a cab or engine fire

Extinguishers must be maintained and inspected annually. They must be stowed securely in/on the vehicle and be readily accessible, i.e. not locked in storage compartments in the vehicle. Refer to the ADR poster on fire extinguishers available on the HSA web site for further information.

12. 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.

12.1 Loading, load restraint and unloading

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

Operators involved in the transport of relatively small quantities of packaged dangerous goods may take advantage of the various transport exemptions outlined in Section 5.

12.1.1 Loading

Checks prior to loading and transportation of dangerous goods must be carried out in all circumstances and if any of the following do not comply 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.

12. General transport provisions

12.1.2 Load restraint

Check the following:

- Orientation
arrows on packages are pointing in the right direction;
- As far as possible liquids are loaded below dry goods;
- Load distribution – ensure weight is as evenly distributed as possible;
- Goods are protected while stacking and no over stacking;
- **All dangerous goods are secured to the vehicle:** unsecured packaged goods must not be loaded on or in a vehicle or container. Packages can be secured to prevent movement by filling voids with dunnage, by use of strapping and/or by blocking and bracing. Goods should not move in any direction during normal transport conditions. When using straps take care 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.

12. General transport provisions

12.1.3 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;
- Resecure dangerous goods not unloaded.

12.2 Mixed packing restrictions

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.

Restrictions may apply to certain dangerous goods in relation to limitation on quantities. Decisions made in relation to mixed packaging should therefore always be verified by a DGSA.

12.3 Mixed load restrictions

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

This only affects Class 1 (explosive substances), and both Class 4.1 (flammable solids) and Class 5.2 (organic peroxides) if they have a secondary explosive hazard, i.e. Class 4.1(1) and Class 5.2(1). Such substances may not be loaded on to 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.

Because of 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 falling outside the restriction).

Restrictions also apply to loads containing foodstuffs when toxic (Class 6.1) or infectious (Class 6.2) substances are carried. A DGSA should be consulted in relation to all load

12. General transport provisions

12.4 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 through 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 the letters A to E. This categorisation is based on the assumption that there are three major dangers in tunnels: (i) explosions, (ii) release of toxic gas or volatile toxic liquid (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. Table 7 indicates the categories and the corresponding letter which appears on the approach to a tunnel; Figure 17 gives an example of a sign (in this case a category C, which appears, for example, on the approach to Dublin Port Tunnel).

Fig. 17



Table 7.

Tunnel category	A	B	C	D	E
Letter on approach	No sign, no restrictions	B	C	D	E

All dangerous goods have a corresponding restriction code B, C, D, E, or a hyphen, indicated as '(-)'. When a hyphen is indicated instead of one of the restriction codes, the dangerous goods are not subject to any tunnel restriction (except for UN No's 2919 and 3331 – radioactive material).

Table 8 shows the dangerous goods restriction codes and thus identifies the tunnels that cannot be entered (when two letters are indicated, the first applies to carriage in tanks and the second applies to packaged goods). 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).

See section 19 for a practical example in relation to tunnel restrictions.

12. General transport provisions

Table 8.

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 UN No's 2919 and 3331).

12. General transport provisions

12.5 Parking restrictions and supervision of vehicles

ADR requires that vehicles with certain quantities of particular classes of dangerous goods must be:

- Supervised at all times; or
- If unsupervised, parked in a secure depot.

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

- 1) A vehicle park supervised by an attendant who must be notified.
- 2) A public or private park in a safe position.
- 3) 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 to consult ADR (indicated in special provisions provided in column 19 of Table A, Chapter 3.2) or to seek clarification from a DGSA.

For example:

The restriction above applies to petrol in packages (e.g. drums or IBCs) of $\geq 10,000$ kg, or in tanks when $\geq 3,000$ litres is carried.

However, in accordance with ADR, these restrictions do 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 taken into consideration when leaving vehicles containing any dangerous goods unattended and appropriate procedures employed.

13. Documentation

Documentation is an important aspect of the transport of dangerous goods. Vital information on the dangerous goods carried, verification of driver qualifications and emergency information are central to the documentation which must be in place during transport operations.

13.1 Document List

Notwithstanding the documents which may be required under other legislation, under ADR 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 must likewise be carried on the transport unit:
 - o The annual vehicle certificate of approval;
 - o The driver's training certificate;
 - o A copy of any exemptions, approvals or Multilateral Agreements (MLAs), as appropriate. A list of all current exemptions/approvals/MLAs is provided on the HSA website:
[Health and Safety Authority - ADR Landing Page](#)

Note: If you are unsure of the requirement for particular documentation, or of the information to be provided in such documentation, it is recommended that you consult a DGSA.

13.2 Transport document

The transport document must be provided by the consignor, and must set out 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;

13. Documentation

- (c) The hazard label model numbers given in Column (5) of Table A in ADR Chapter 3.2 or, when multiple hazard label model numbers are given, the numbers following the first one must 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: It is not required to indicate the number, type and capacity of each inner package in a combination packaging.

- (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 2), the total quantity of dangerous goods for each transport category must be indicated on the transport document (See Section 19, worked examples).

NOTE 2: For dangerous goods in machinery or equipment specified in ADR, the quantity indicated must 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 with 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;
- (j) 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 12.4).

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 (j) must be shown in the order listed above (i.e. (a), (b), (c), (d), (j)) 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)"**

13. Documentation

Table 9 provides an example of how such transport documents are laid out.

Table 9.

ADR transport document Consignor: Company XYZ Address: A Road, Town, County/Country Date: dd/mm/yy		
Dangerous goods description:	No. of packages/type	Total quantity
UN1134, chlorobenzene, 3, PG III, (D/E)	20 x 200 litre plastic drums (1H2)	4,000 litre
UN1760, corrosive liquid, N.O.S.(contains sodium hydroxide), 8, PG III, (E)	10 X 10 litre plastic drums (1H1)	100 litre
Consignee(s): Company ABC Address: A Road, Town, County/Country		

Note 1: When availing of the small load exemption, Section 5.2, the **total quantity of each transport category** must be indicated.

Note 2: It is recommended as good practice to include, where relevant, the **packaging material**, (e.g. steel, aluminium, plastics, plywood, fibreboard, etc.).

13.3 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 must 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 must 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 mode regulations together with the identification of the person responsible for the container packing certificate will be sufficient.

13. Documentation

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

Declaration in a multi-mode transport document:

<p>CONTAINER/VEHICLE PACKING CERTIFICATE</p> <p>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 Code 5.4.2</p>
<p>MUST BE COMPLETED AND SIGNED FOR ALL CONTAINER/VEHICLE LOADS BY PERSON RESPONSIBLE FOR PACKING/LOADING</p>
<p>Name of company</p>
<p>Name/status of declarant</p>
<p>Place and date</p>
<p>Signature of declarant</p>

13.4 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 available in multiple languages refer to the UNECE web site: http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.html

14. Transport equipment inspection and certification

All transport equipment (see Section 1 for the definition) 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 mandatory inspection requirements.

Table 10.

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)
IBCs	Test report from manufacturer/supplier	Inspection every 2.5–5 years (metal/rigid plastics and composite)
Bulk containers	In accordance with ADR	In accordance with ADR
Tanks	Type approval from manufacturer/supplier	Inspection every 2.5–3 and 5–6 years as appropriate

14. Transport equipment inspection and certification

Certain ADR vehicles (trucks and trailers) are required to undergo an annual technical inspection, which is in addition to the annual roadworthiness test and must be conducted at approved HGV centres. There are 101 HGV test centres in the country, of which 16 are active ADR appointed centres.

The RSA is the competent authority in the State for the annual technical inspection of ADR vehicles and for issuing certificates of approval for ADR vehicles. The RSA may appoint authorised ADR examiners and authorised testers for the purpose of carrying out ADR tests. There are two types of certificate issued: “National” for vehicles used exclusively in the State and “International” for vehicles used for international transport, i.e. travelling in other EU Member States.

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 Convention for Safe Containers (CSC) as amended and published by the International Maritime Organisation (IMO).

15. 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 must consider the security requirements commensurate with their responsibilities.

Dangerous goods must 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 must be properly secured, well lit and, where possible and appropriate, inaccessible to the general public.

Drivers and vehicle crew must carry with them means of identification, including 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 the HSA, upon request. Records must be kept by the employer for a period of time established by the competent authority. In Ireland this must be the duration of employment and for a further period of not less than one year following the termination of employment.

15.1 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 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 must 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.

16. 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 written procedures, information, supervision and training.

Businesses that consign, store and/or carry dangerous goods must have procedures as appropriate to deal, amongst others, with the following:

- Chemical spills;
- Fire/explosion;
- Road traffic incidents 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, amongst others, within your procedures:

- Outlining the emergency;
- Identifying employee(s) with responsibilities (e.g. co-ordinator, primary contact);
- Key actions, (e.g. notifying emergency services/local authority/local doctor, etc)
- Collecting information and taking appropriate action
- Contacting appropriate specialist contractors (chemical spill/waste contractor, vehicle recovery);
- Notifying insurance company;
- Reviewing actions (accident investigation including a formal incident report – see reportable incidents below) and planning for resumption of normal business.

16. Emergency action

16.1 Incidents reportable to the HSA (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, must ascertain that a report conforming to the model prescribed in ADR 1.8.5.4 is completed and submitted to the HSA.

An event subject to report has occurred if dangerous goods have been released or if there has been an imminent risk of loss of product, or if personal injury, or material or environmental damage has occurred, or if the authorities have been involved and one or more of the following criteria has 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 litres or more;
- (b) Of transport category 2 in quantities of 333 kg /333 litres or more; or
- (c) Of transport category 3 or 4 in quantities of 1,000 kg/1,000 litres 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).

Also:

- 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

16. Emergency action

protection of workers and members of the public against ionising 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. Damage to any directly involved transport equipment (means of carriage) containing dangerous goods and to the modal infrastructure (e.g. roadway, bridge) must 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.

17. Record keeping

Records and documentation is part of business, but some must be kept by law. Table 11 gives examples of documents which must be retained by businesses involved with the carriage of dangerous goods.

Table 11.

Document	Participant responsible	Retention period
Transport documents	Consignor and carrier	Three months
Training records	All employers	Duration of employment plus one year
Annual report (DGSA)	Consignor and carrier	Five 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
Packaging test reports	Consignor	Until the next test report is issued

18. Enforcement

In Ireland, enforcement of the legislation governing the carriage of dangerous goods by road is primarily undertaken by inspectors of the HSA, 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.

18.1 Inspection

Compliance with the legislation is monitored and enforced by inspection. Inspections are carried out on vehicles at the roadside 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 of An Garda Síochána and are set up countrywide. (See Appendix 5 for an example of the checklist used).

Premises inspections are generally unannounced and provide inspectors with the opportunity to look more closely at the full range of a business' activities 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 and/or a contravention or prohibition notice.

18.2 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, and 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, and, depending on the alleged offence or penalties, in court a fine of up to €3,000 and/or 12 months imprisonment on summary conviction, and up to €500,000 and/or 3 years imprisonment on conviction on indictment.

19. Practical examples of common issues

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

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

- Examples 1–5 cover different aspects of carriage under the various exemptions (covered in Section 5):
 - o Maintenance/mobile work (e.g. refrigeration engineer, welding, fuel carried for equipment (e.g. generators, garden machinery, various types of hot work));
 - o 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);
 - o Carrying goods which qualify for limited quantity exemption, i.e. dangerous goods in small quantities in the order of up to 5 kg or 5 litres.
- Examples 6 and 7 cover the carriage of infectious (Class 6.2) and other hazardous waste;
- Example 8 deals with the carriage of fuel in bowsers;
- Example 9 clarifies the situation in relation to tunnel restrictions; and
- Example 10 covers the carriage of asbestos waste.

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

19. Practical examples of common issues

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 to 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 transportation 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 the following limitations:

- The dangerous goods must be carried in quantities of not more than 450 litres per packaging;
- The dangerous goods must be carried in quantities 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 be unlikely to leak. It must be ensured that all cylinder valves are shut during carriage, and not just the regulator valves where fitted;
- For substances such as acetylene or other gases carried in cylinders, it is preferable to carry the cylinders in open or ventilated vehicles. If this is not feasible, the doors of the vehicle should be clearly marked with the following: “WARNING, NO VENTILATION, OPEN WITH CAUTION”;
- 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.).
- Although not required by ADR, it is considered good practice to attach labels to indicate the hazards pertaining to the dangerous goods being carried. Such labels, (magnetic or otherwise) should be removed from the vehicle when it is no longer carrying dangerous goods..

Note that carrying the same dangerous substances **in order to supply/distribute them between work depots, i.e. a predominantly dedicated vehicle/driver for the distribution of materials which may include dangerous goods, 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.

19. Practical examples of common issues

This exemption is not available to couriers or transport companies, the main activity of which is “transportation” which may include dangerous goods from time to time, irrespective of the quantity of dangerous goods.

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 commonplace. 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 belong to PG 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 **1,000 kg/litres**. Thus in order to avail of the exemption, each shipment must not exceed 1,000 kg/litres.

For each transport operation, if the load does not exceed 1,000 kg/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 13.2) for each hazardous substance carried;
- The vehicle must carry a suitable 2 kg 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 or during carriage;
- In all cases a risk assessment should be carried out and any additional measures identified following that assessment should be implemented.

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

- ADR security requirements(except for Class 1 explosives);
- Vehicle orange plates and placarding;
- Provision of and carrying of the instructions in writing;

19. Practical examples of common issues

- ADR driver training certification (see above – general training is required however, which includes job specific training, relevant hazard awareness training and emergency action);
- Safety equipment/fire extinguishers, except as detailed above.

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

The company is in a similar situation to that of Example 2, but on this occasion some of the paints and a lacquer have been identified as belonging to PG II (transport category 2) and in addition, a cleaning liquid which is corrosive and belongs to PG 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 12 as follows:

Table 12.

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

The sum total is less than 1,000, 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 would be as provided in Table 13.

19. Practical examples of common issues

Table 13.

Dangerous goods	Transport category	Quantity (litres)	Multiplying factor	Total
Paint Group A	3	400	1	400
Paint Group B	2	20	3	60
Lacquer	2	200	3	600
Cleaner	3	50	1	50
Total				1,110

The sum total, being over 1,000 litres would mean this exemption **could not 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 not greater than 1,000 units.

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

Example 4: Carriage of 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 5 kg 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 not exceeding 1,000 litres, i.e. up to 50 drums of capacity 20 litres (total 1,000 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 not exceeding 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.

19. Practical examples of common issues

For example, the company needs to deliver five LPG cylinders (four 11 kg cylinders and one 5 kg cylinder) and wishes to calculate how many kerosene drums it can carry whilst still being able to avail of the small load exemption. Table 14 can be used to calculate this.

Table 14.

Dangerous goods	Transport category	Quantity (kg/litres)	Multiplying factor	Total
Kerosene	3	?	1	?
LPG	2	49	3	147
Total				$\leq 1,000$

From Table 14,

$$1,000 - 147 = 853$$

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.

$$840 + 147 = 987 \text{ (i.e. } \leq 1,000\text{)}$$

If loads are kept within the exemption limits (i.e. total quantity, taking into account the multiplying factors, is not more than than 1,000 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 13.2). 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 2 kg fire extinguisher;
- The driver and crew must have received appropriate general training, which will include function specific training in relation to the handling of cylinders and drums and the hazards relating to flammable gases and liquids;
- 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 or during carriage;
- In all cases a risk assessment should be carried out and any additional measures identified following that assessment should be implemented.

19. Practical examples of common issues

See example 2 for the requirements which 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 a product identified as UN No. 1170, Ethanol Solution, Class 3, PG III on a regular basis. The substance is always packed in **2.5 litre bottles**, and the total quantity carried ranges from 3,000 litres to 10,000 litres.

The small load exemption cannot be used because of the total load size. However, as the product is carried in relatively small (inner) packagings, the next thing to check is whether or not it is permissible to carry it 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 beneath which the substance could 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.

Under LQ provisions **ADR training is not required for drivers**. 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 require on the job training, general hazard awareness and emergency action, and possibly function specific training such as loading, unloading and handling, depending on the duties of the driver in the specific case.

You may require a DGSA to establish LQ provisions.

Example 6: Carriage of clinical waste (Class 6.2)

Community-based nurses/doctors/vets often generate clinical waste (UN 3291, clinical waste, unspecified, N.O.S., 6.2, II) and transport such waste in UN approved plastic rigid packaging. Such activities can avail of ADR exemption 1.1.3.1(c) [**see Section 5.1(c)**], as the provisions laid down in ADR do not apply to carriage undertaken by enterprises which is ancillary to their main activity. As UN 3291 belongs to transport category 2, a maximum quantity of 333 kg/litres may be carried per vehicle.

19. Practical examples of common issues

To avail of this exemption, measures must be taken to prevent any leakage of contents in normal conditions of carriage in accordance with ADR 1.1.3.1(c).

Example 7: Consignment of clinical and other wastes by doctor surgeries/small clinics, veterinary practices, dental practices and pharmacies

Doctors surgeries, dental practices, veterinary practices and pharmacies which generate clinical waste or other hazardous wastes are considered to be 'consignors' under ADR, and must therefore adhere to the applicable legal requirements for the transport of dangerous goods.

For example, a high street pharmacy may produce out of date drugs/medicines and clinical waste (used sharps needles). These and any other substances that are subject to ADR must be dealt with appropriately.

The first step is to classify the substances (e.g. identify infectious waste, flammable liquids and toxic substances).

Those subject to ADR must be properly segregated (e.g. old medicines should not be placed into the clinical waste container), packaged, labelled and marked for transport. A transport document must be drawn up, and a suitably competent and qualified carrier should be engaged to remove the wastes for appropriate disposal. Refer to "consignor" duties and other duty holders in Section 3.

In many cases the carrier, a specialist waste contractor, may be able to advise on the necessary steps to be taken. This information/advice provided by the carrier should be from the carrier's DGSA and it is important to check with the carrier that this is the case, or engage the services of a DGSA to advise on what the legal requirements are for your particular business.

In the case where the carrier is acting for a pharmacy, i.e. drawing up documentation, and providing packaging and advice on segregation and marking etc, it is important that this activity is reflected in the pharmacy's contract with the carrier. Any legal duties that are transferred by agreement to another party must be contained in a contract of carriage and agreed by both parties.

19. Practical examples of common issues

Example 8: Use of bowsters for the carriage of fuel

Bowsters are commonplace on our roads and used in various workplaces, most commonly for fuel transfer.



There is likely to be no issue with a modern certified bowster 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, an older bowster with no certification will have limitations on its use and it may be completely unsuitable for transporting any dangerous goods, including fuels. If it is intended to use a bowster 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 bowsters for the transport of aviation fuel (UN No. 1863, Class 3, PG II) from a fuel depot to a garage in order to fuel 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 bowsters that were manufactured in 2001 and are not UN approved, and wishes to know if the two bowsters would be suitable for the carriage of the two fuels, one bowster for each fuel type.

For the transport of aviation fuel (UN No. 1863), the only bowsters that are suitable are those certified as an IBC and with an "X" or "Y" type approval and approved for fuel. The company will thus need to purchase a new UN approved bowster/IBC authorised for the carriage of UN No. 1863, PG II. The manufacturer or a DGSA would be able to advise the company on this. It should be noted that bowsters certified as IBCs must be marked as for packages, i.e. with hazard label and UN number on two opposite sides and applicable vehicle marking – ADR orange plates front and rear.

19. Practical examples of common issues

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.

This type of transport is subject to all the applicable legal requirements except when the bowser/IBC has a capacity of 1,000 litres or less in which case, when carrying diesel, the small load exemption may be applied (see Example 2).

Example 9: 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 12.4 and Chapter 3.2 of the ADR, Table A, Column 15):

LPG (UN No. 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 8 in Section 12.4, 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 which is a category C 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 13.2).

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 10: Carriage of waste asbestos

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

19. Practical examples of common issues

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 which of the provisions of ADR may apply.

A specific guide on transporting waste asbestos is available on the HSA web site: [Health and Safety Authority - ADR Landing Page](#)

Note: the general principles 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).

20. 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.

20.1 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>
- The ADR pages on the HSA website [Health and Safety Authority - ADR Landing Page](#) provide information on the following:
 - o Current regulations
 - o The role and appointment of a DGSA
 - o Guidance on the appointment of a DGSA
 - o Details on the driver and DGSA examination process
 - o Information regarding approved training providers and examination
 - o A list of all current exemptions/approvals/MLAs
 - o Further guidance, information, industry notices, information posters, and useful links, according to your particular requirements
- Instructions in writing, available in multiple languages, are available from the UNECE web site:
http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.html
- Guidance on classification and labelling under the CLP Regulation and information on the content and layout of Safety Data Sheets (SDS) are provided at:
[Health and Safety Authority - Chemicals Safety Management and Sustainable Use](#)

21. Appendices

Appendix 1.

Self-assessment for the carriage of dangerous goods by road (non exhaustive checklist)

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/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

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Packaging/labelling	<p>Identify all packaging used and handled.</p> <p>Note correct packaging type for goods and limitations of certain packaging (e.g., certain plastics have a standard 5 year period of use).</p>	<p>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</p>
Documentation	<p>Consignors to create transport document(s). Ensure all documentation is identified and accompanies each dangerous goods shipment. Carriers to supply instructions in writing</p>	<p>Transport documentation must be held on record for 3 months</p>
Dangerous Goods Safety Adviser	<p>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.</p> <p>Their role is to advise on legislation and monitor and ensure proper procedures are in place</p>	<p>A DGSA may be the head of the business, an employee or a consultant.</p> <p>Where formally appointed an annual report must be prepared and held on file for 5 years</p>

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Appendix 2. Small load exemption

(ADR Table 1.1.3.6.3 max. quantity per transport unit)

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	Substances or articles packing group or classification code/group or UN No.	Maximum total quantity per transport unit
(1)	(2)	(3)
0	Class 1: 1.1A/1.1L/1.2L/1.3L and UN No. 0190	0
	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 No's 2912 to 2919, 2977, 2978 and 3321 to 3333	
	Class 8: UN No. 2215 (MALEIC ANHYDRIDE, MOLTEN)	
	Class 9: UN No's 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.	
1	Substances and articles belonging to packing group I and not classified in transport category 0 and substances and articles of the following classes:	20
	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 No's 3221 to 3224 and 3231 to 3240	
	Class 5.2: UN No's 3101 to 3104 and 3111 to 3120	

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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:	333
	Class 1: 1.4B to 1.4G and 1.6N	
	Class 2: group F aerosols: group F	
	Class 4.1: UN No's 3225 to 3230	
	Class 5.2: UN No's 3105 to 3110	
	Class 6.1: substances and articles belonging to packing group III	
	Class 9: UN No. 3245	
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:	1 000
	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 No's 2794, 2795, 2800, 3028 and 3477	
	Class 9: UN Nos 2990 and 3072	
	Class 1: 1.4S	
4	Class 4.1: UN No's 1331, 1345, 1944, 1945, 2254 and 2623	unlimited
	Class 4.2: UN No's 1361 and 1362 packing group III	
	Class 7: UN No's 2908 to 2911	
	Class 9: UN No. 3268	
	and empty, uncleaned packagings having contained dangerous goods, except for those classified in transport category 0	

^a For UN No's 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017, the total maximum quantity per transport unit shall be 50 kg.

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Appendix 3. Instructions in writing according to ADR

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:

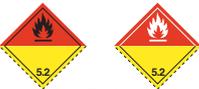
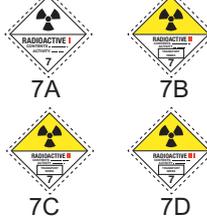
- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substance defined in the CLPs 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.

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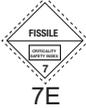
Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances

Danger labels and placards	Hazard characteristics	Additional guidance
<p>(1)</p> <p>Explosive substances and articles</p>  <p>1 1.5 1.6</p>	<p>(2)</p> <p>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.</p> <p>Sensitive to shocks and/or impacts and/or heat.</p>	<p>(3)</p> <p>Take cover but stay away from windows.</p>
<p>Explosive substances and articles</p>  <p>1.4</p>	<p>Slight risk of explosion and fire.</p>	<p>Take cover.</p>
<p>Flammable gases</p>  <p>2.1</p>	<p>Risk of fire.</p> <p>Risk of explosion.</p> <p>May be under pressure.</p> <p>Risk of asphyxiation.</p> <p>May cause burns and/or frostbite.</p>	<p>Take cover.</p> <p>Keep out of low areas.</p>
<p>Non-flammable, non-toxic gases</p>  <p>2.2</p>	<p>Risk of asphyxiation.</p> <p>May be under pressure.</p> <p>May cause frostbite.</p> <p>Containments may explode when heated.</p>	<p>Take cover.</p> <p>Keep out of low areas.</p>
<p>Toxic gases</p>  <p>2.3</p>	<p>Risk of intoxication.</p> <p>May be under pressure.</p> <p>May cause burns and/or frostbite.</p> <p>Containments may explode when heated.</p>	<p>Use emergency escape mask.</p> <p>Take cover.</p> <p>Keep out of low areas.</p>
<p>Flammable liquids</p>  <p>3</p>	<p>Risk of fire.</p> <p>Risk of explosion.</p> <p>Containments may explode when heated.</p>	<p>Take cover.</p> <p>Keep out of low areas.</p>
<p>Flammable solids, self-reactive substances and solid desensitised explosives</p>  <p>4.1</p>	<p>Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames.</p> <p>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.</p> <p>This may result in the evolution of harmful and flammable gases or vapours or self-ignition.</p> <p>Containments may explode when heated.</p> <p>Risk of explosion of desensitized explosives after loss of desensitizer.</p>	

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Danger labels and placards	Hazard characteristics	Additional guidance
(1)	(2)	(3)
<p>Substances liable to spontaneous combustion</p>  <p>4.2</p>	<p>Risk of fire by spontaneous combustion if packages are damaged or contents are spilled. May react vigorously with water</p>	
<p>Substances which, in contact with water, emit flammable gases</p>  <p>4.3</p>	<p>Risk of fire and explosion in contact with water.</p>	<p>Spilled substances should be kept dry by covering the spillages.</p>
<p>Oxidizing substances</p>  <p>5.1</p>	<p>Risk of vigorous reaction, ignition and explosion in contact with combustible or flammable substances.</p>	<p>Avoid mixing with flammable or combustible substances (e.g. sawdust).</p>
<p>Organic peroxides</p>  <p>5.2</p>	<p>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.</p>	<p>Avoid mixing with flammable or combustible substances (e.g. sawdust).</p>
<p>Toxic substances</p>  <p>6.1</p>	<p>Risk of intoxication by inhalation, skin contact or ingestion. Risk to the aquatic environment or the sewerage system.</p>	<p>Use emergency escape mask.</p>
<p>Infectious substances</p>  <p>6.2</p>	<p>Risk of infection. May cause serious disease in humans or animals. Risk to the aquatic environment or the sewerage system.</p>	
<p>Radioactive material</p>  <p>7A 7B 7C 7D</p>	<p>Risk of intake and external radiation.</p>	<p>Limit time of exposure.</p>

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Danger labels and placards	Hazard characteristics	Additional guidance
(1)	(2)	(3)
Fissile material 	Risk of nuclear chain reaction.	
Corrosive substances 	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 	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.

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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.

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Appendix 4.

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

Class	Division	Substance or article	Quantity		
			Tank (litres) ^c	Bulk (kg) ^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 ¹ of UN No's 0029, 0030, 0059, 0065, 0073, 0104, 0237, 0255, 0267, 0288, 0289, 0290, 0360, 0361, 0364, 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 0
		Toxic gases (classification codes including letters T, TF, TC, TO, TFC or TOC) excluding aerosols	0	a	
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 No's 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 authorised, in accordance with Chapter 3.2, Table A, column (10) or (12). For substances that are not authorised 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 authorised, in accordance with Chapter 3.2, Table A, column (10) or (17). For substances that are not authorised for carriage in bulk, the instruction in this column is not relevant.

¹ Amended to reflect the contents of Table 1.10.5 of ADR 2013.

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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 ✓ Infringement ✓ Not Applicable ✓

13. Transport Document			
14. Instructions In Writing			
15. Bilateral/Multilateral Agreement/National Authorisation			
16. Certificate of Approval for Vehicles			
17. Driver's Training Certificate			

Transport Operation

Inspected ✓ Infringement ✓ Not Applicable ✓

18. Goods authorised for Transport			
19. Vehicles authorised 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)			

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Equipment On Board

Inspected ✓ Infringement ✓ Not Applicable ✓

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	<input type="checkbox"/> Category I	<input type="checkbox"/> Category II	<input type="checkbox"/> 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

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Appendix 6.

Guidelines for the carriage of fuel in bowsers

The provisions of these guidelines are temporary and remain in place until further notice is received from the competent authority.

1. For participants intending to carry the dangerous goods listed in paragraphs 2 and 3, these guidelines allow:
 - (a) **Owners of bowsers** to deem certain bowsers to be intermediate bulk containers (IBCs) provided they comply with the bower specifications and conditions set out in paragraph 4;
 - (b) **Consignors and packers** to consign and fill the dangerous goods in such bowsers 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 bowsers deemed to be IBCs

4. A bower manufactured before 1 July 2003 may be regarded as an intermediate bulk container (IBC) provided the following conditions are met:
 - (a) It must have a capacity of not more than 3,000 litres;
 - (b) It must be designed for mechanical handling;
 - (c) It must be resistant to the stresses produced in handling and carriage;
 - (d) It must 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 must remain safe and suitable for the carriage of UN 1202, i.e. it must undergo a leakproofness test and visual inspection every 2.5 years, and the results of such test and inspection must be documented;
 - (f) It must be submitted for re-inspection if directed by the competent authority;
 - (g) It must be marked (UN No. 1202, EHS mark on two opposite sides) and labelled (Class 3 labels on two opposite sides);
 - (h) The owner must ensure that the consignor and carrier are informed of the terms of these guidelines.

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Alternative provisions for consignors and packers

5. Provided that the bowser remains safe and suitable for the carriage of UN1202 [see paragraph 4(e)]:
 - (a) The consignor shall be exempt from 1.4.2.1.1(c) of ADR;
 - (b) The packer shall be exempt from 1.4.3.2(a) of ADR.

6. Provided that the bowser remains safe and suitable for the carriage of UN1202 [see paragraph 4(e)], 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 6.5.6 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 6.5.6 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 6.1.5.4.3 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.

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