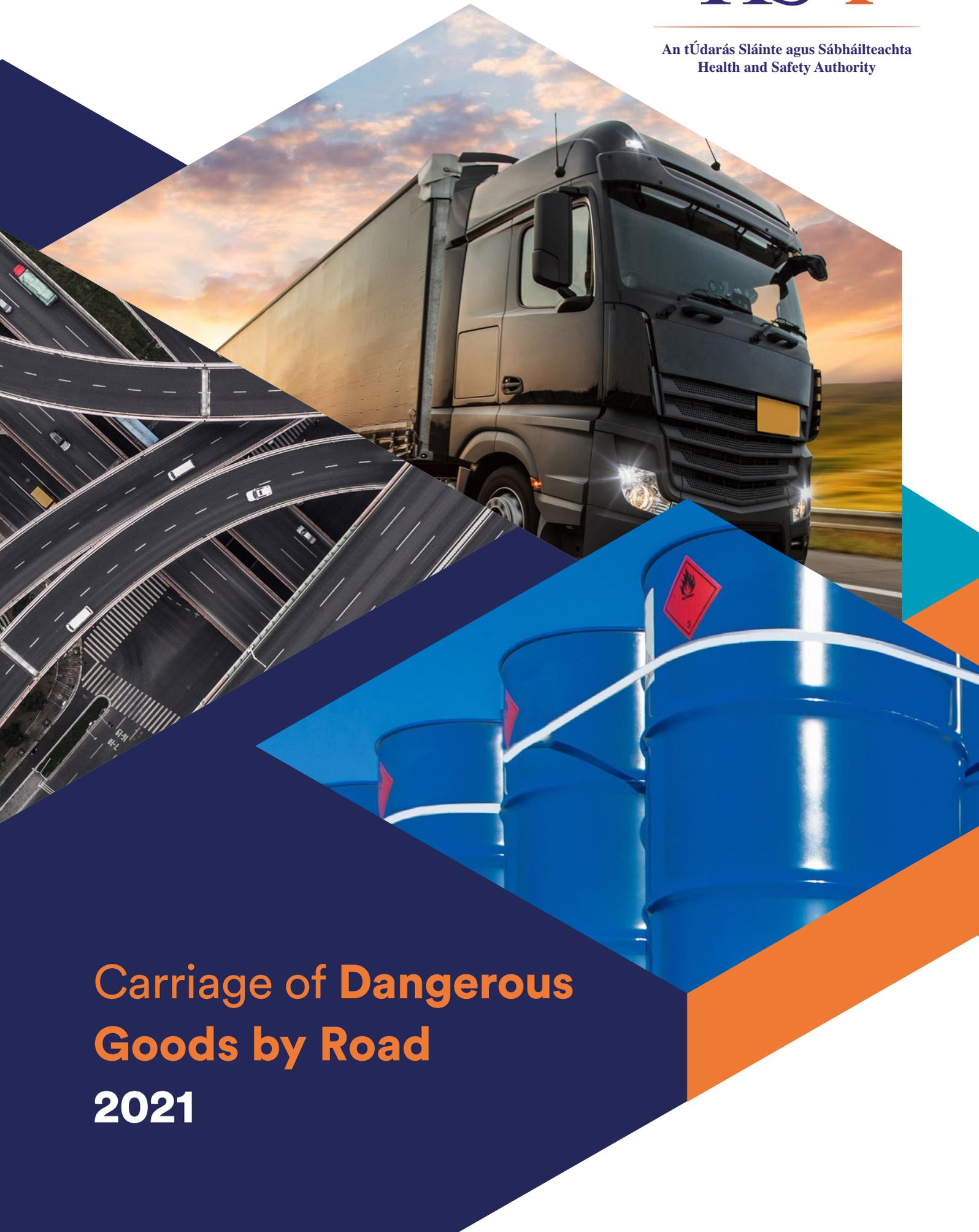


# HSA

An tÚdarás Sláinte agus Sábháilteachta  
Health and Safety Authority



## Carriage of Dangerous Goods by Road 2021

**Our Vision:**

Healthy, safe and  
productive lives  
and enterprises





An tÚdarás Sláinte agus Sábháilteachta  
Health and Safety Authority

# Contents

<b>Section 1</b>	<b>4</b>
<b>Introduction</b>	<b>4</b>
<b>Section 2</b>	<b>6</b>
<b>Road Transport Legislation and other Modes of Transport</b>	<b>6</b>
<b>Section 3</b>	<b>8</b>
<b>General Safety Measures and the main Participants</b>	<b>8</b>
3.1 <i>General health and safety measures</i>	10
3.2 <i>Participants</i>	10
<b>Section 4</b>	<b>15</b>
<b>Dangerous Goods Safety Adviser (DGSA)</b>	<b>15</b>
<b>Section 5</b>	<b>16</b>
<b>Exemptions</b>	<b>16</b>
5.1 <i>ADR Exemptions</i>	16
5.2 <i>Small Load Exemption (ADR 1.1.3.6)</i>	19
5.3 <i>National Exemptions (National Regulations)</i>	23
5.4 <i>Limited Quantities (LQ) (ADR 3.4)</i>	23
5.5 <i>Excepted Quantities (ADR 3.5)</i>	25
<b>Section 6</b>	<b>26</b>
<b>Training and Training Records</b>	<b>26</b>
6.1 <i>General awareness training, function specific training, and safety and security training</i>	26
6.2 <i>Driver training and examination</i>	27
6.3 <i>DGSA training and examination</i>	28

<b>Section 7</b>	<b>29</b>
<b>Dangerous Goods Classification</b>	<b>29</b>
<b>Section 8</b>	<b>32</b>
<b>Packaging, Marking and Hazard Labelling</b>	<b>32</b>
8.1 <i>Packaging and marking</i>	33
8.2 <i>Hazard labelling</i>	35
8.3 <i>Use of overpacks</i>	37
<b>Section 9</b>	<b>38</b>
<b>Vehicles, Marking and Labelling</b>	<b>38</b>
<b>Section 10</b>	<b>40</b>
<b>Tanks, Marking and Labelling</b>	<b>40</b>
<b>Section 11</b>	<b>41</b>
<b>Vehicle Safety Equipment and Personal Protective Equipment</b>	<b>41</b>
11.1 <i>Mandatory Equipment</i>	41
11.2 <i>Fire-fighting equipment</i>	42
<b>Section 12</b>	<b>43</b>
<b>Transport Provisions</b>	<b>43</b>
12.1 <i>Loading, load restraint and unloading</i>	43
12.2 <i>Mixed packing restrictions</i>	45
12.3 <i>Mixed loading restrictions</i>	45
12.4 <i>Tunnel restrictions</i>	45
12.5 <i>Parking restriction and supervision of vehicles</i>	48
<b>Section 13</b>	<b>49</b>
<b>Documentation</b>	<b>49</b>
13.1 <i>Document list</i>	49
13.2 <i>Transport document</i>	50
13.3 <i>Container or vehicle packing certificate</i>	51
13.4 <i>Instructions in writing</i>	52

<b>Section 14</b>	<b>53</b>
<b>Transport Equipment Inspection and Certification</b>	<b>53</b>
<b>Section 15</b>	<b>55</b>
<b>Security Provisions</b>	<b>55</b>
<b>Section 16</b>	<b>56</b>
<b>Emergency Action</b>	<b>56</b>
<b>Section 17</b>	<b>58</b>
<b>Record Keeping</b>	<b>58</b>
<b>Section 18</b>	<b>59</b>
<b>Hazardous Waste</b>	<b>59</b>
<i>18.1 Classification and "waste" prefix</i>	<i>60</i>
<i>18.2 Packaging, marking and labelling of waste</i>	<i>60</i>
<i>18.3 Participant duties</i>	<i>61</i>
<i>18.4 Examples</i>	<i>61</i>

# SECTION 1

## INTRODUCTION

This guide is for 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 provides a summary of the legal provisions of the **ADR (Agreement Concerning the International Carriage of Dangerous Goods by Road)**. The detailed provisions of the ADR are available to download at <https://unece.org/transport/dangerous-goods>.

All businesses that carry significant quantities of dangerous goods by road have a legal obligation to appoint a dangerous goods safety adviser (DGSA). A DGSA is a competent person who can advise on the safe transport of dangerous goods, both nationally and internationally. This guide does not exclude this group, but is primarily for businesses that operate **below the threshold** where a DGSA is legally required and therefore may not have immediate access to a DGSA. For such businesses, a DGSA may still be required from time to time, and the guide does not intend to replace that expertise. It is intended to allow businesses to be better informed in terms of ensuring compliance with current legislation and in controlling the risks when handling dangerous goods.

For many businesses, the extent of involvement with dangerous goods is limited and the relevant legislation provides some exemptions. The guide includes examples to help you identify what provisions may or may not apply to you.

For further information, see the HSA website: [Carriage of Dangerous of Goods by Road](#).

## Definitions

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

### In this guide:

- ▶ **“ADR”** means the Agreement Concerning the International Carriage of Dangerous Goods by Road;
- ▶ **“Contract for Carriage”** means a written contract for the carriage of dangerous goods by road in which one or more of the parties have identified themselves as a particular participant with specific obligations as set out in chapter 1.4 of the ADR;
- ▶ **“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;
- ▶ **“IBC”** means intermediate bulk container;
- ▶ **“MEGC”** means a multiple-element gas container;
- ▶ **“MEMU”** means a mobile explosives manufacturing unit;
- ▶ **“Participant”** means any person or enterprise involved in the carriage of dangerous goods by road and associated loading, unloading, packing and filling and includes consignor, carrier, consignee, driver, filler, loader, packer, unloader, tank-operator or portable tank operator, vehicle crew, DGSA, inspection body 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;
- ▶ **“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, battery vehicles, multiple element gas containers (MEGCs), trailers, bulk containers, intermediate bulk containers, containers, packaging, packages, pressure receptacles, gas cartridges and aerosols, and any other item used or intended for use in the carriage of dangerous goods by road.

# SECTION 2

## ROAD TRANSPORT LEGISLATION AND OTHER MODES OF TRANSPORT

Legislation governing the international carriage of dangerous goods by road is based on the ADR and has been adopted by more than 50 countries worldwide. The agreement was originally signed in Geneva in 1957, and is amended every two years.

In Ireland the ADR is given effect by [national regulations](#)<sup>1</sup> which are frequently amended to keep them in line with each new edition of the ADR.

The competent authorities under the regulations are the:

**Minister for Justice and Equality**  
for the carriage of explosive substances;

**Environmental Protection Agency**  
for the carriage of radioactive materials;

**Road Safety Authority**  
for the technical examination of vehicles and the issue of annual certificates of approval;

**National Roads Authority or Transport Infrastructure Ireland**  
for the carriage of dangerous goods through tunnels;

**National Standards Authority of Ireland**  
for conformity assessment of some transport equipment and testing and approval of packaging including IBCs;

**Irish National Accreditation Board**  
for accreditation of inspection bodies;

**HSA**  
for all other functions required to be performed by a competent authority pursuant to relevant road transport statutory provisions.

<sup>1</sup> The European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations, 2011 (S.I. No. 349 of 2011) as amended (see legislation page on HSA website).

The regulations refer to the ADR, which provides details on all aspects of the transport of dangerous goods, from design and construction of road tankers to training requirements of individuals. The regulations provide for participants (duty holders) with specific responsibilities, and outline the powers of enforcement, offences and penalties.

## Other modes of transport

This guide is only concerned with the carriage of dangerous goods by road. 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 (DGSA) specialising in multi-modal transport.

The representative bodies for carriage by air, sea and rail are:

Mode of Transport	International Rules	Representative Body
Air	ICAO Technical Instructions	Irish Aviation Authority
Sea	IMDG Code	Marine Survey Office, Department of Transport, Tourism and Sport
Rail	RID	Department of Transport, Tourism and Sport

# SECTION 3

## GENERAL SAFETY MEASURES AND THE MAIN PARTICIPANTS

The participants with specific legal duties under the regulations are the consignor, carrier, driver and vehicle crew, packer, filler, loader, unloader, tank-container or portable tank operator and consignee. The DGSA is also a participant, and is covered in section 4.

There are generally several participants in a particular transport chain. A person or company can be one, or may assume the responsibility of several participants, depending on the activity.

### Example

A printing ink company, which mixes or 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 the ink company employs a driver and uses a company lorry, then they are also a “carrier” and the employee is the “driver”. These participant responsibilities could be carried out by different companies, for example, the ink company hands the product to a courier, who then takes on the responsibility of “carrier”.

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

## Example contract for carriage

ADR Chapter 1.4 sets out detailed safety obligations for participants involved in the transport of dangerous goods. These obligations may, however, be transferred between participants and third party contractors.

For example, a consignor may engage a specialist waste company to handle hazardous waste. The company who is not the generator or consignor of the waste may by agreement with the consignor take the responsibilities, in whole or in part, of the consignor, packer and loader. This agreement forms the contract between the consignor and the specialist waste company and over rides the legal obligations otherwise set out in ADR.

### Template Contract for Carriage

European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011, as amended

#### Contract for Carriage

Under the provisions of the European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011, as amended, and with reference to ADR Chapter 1.4, Company X, hazardous waste producer, and Company Y, specialist waste contractor hereby agree to the following transfer of safety obligations for the disposal of [specify hazardous waste streams]:

#### ADR 1.4 Safety obligations

ADR 1.4 Safety obligations	Company X	Company Y
Provision of all necessary information/data to allow waste streams to be classified	x	
1.4.2.1.1 (a) classification		x
(b) prepare/provide information and transport documentation		x
(c) provide suitable packaging		x
(d) means of dispatch and forwarding restrictions		x
1.4.2.2 Carrier responsibilities		x
1.4.3.2 Packer responsibilities		x
1.4.3.1 Loader responsibilities	x	
<b>DGSA support</b>		<b>x</b>

Company Y shall provide on and off site resources to comply with the requirements of ADR and national provisions in accordance with the obligations above. A report summarising each consignment shall be prepared by Company Y and provided to Company X including a copy of each transport document prepared.

The legal obligations outlined above take precedence over obligations specified in ADR 1.4 and are hereby agreed by:

Signed:  
Date  
Company X

Signed:  
Date  
Company Y

## 3.1 General health and 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 employees with duties concerning the carriage of dangerous goods have received the appropriate training;
- ▶ Keep records of such training;
- ▶ Comply with specified legal duties;
- ▶ Take appropriate measures to avoid damage or injury;
- ▶ Notify emergency services of an immediate risk to public safety.

**Note:** *The guidance provided in section 3.2 is a reflection of the provisions of ADR Chapter 1.4, Safety Obligations of the Participants. However, we have added some additional guidance to facilitate compliance with other sections of the ADR.*

## 3.2 Participants

### 3.2.1 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. If transportation is carried out under a **contract for 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 (for example, when the ‘consignee’ takes on the role of consignor when the consignor is outside the State), the third party must inform the consignor in writing that dangerous goods are involved and make available all the information and documents needed to perform the consignor’s obligations.

The consignor must in particular:

- ▶ Ensure that the dangerous goods are classified (see section 7) and authorised for carriage in accordance with ADR;
- ▶ Provide the carrier with information and data and, if necessary, the required transport documents (see section 13) and accompanying documents (for example, national exemptions, multilateral agreements (MLAs), approvals, notifications, certificates). The consignor must ensure that a carrier is informed in advance of the nature of the dangerous goods to be collected and, when a driver arrives on site, ensure that all necessary documentation is provided;
- ▶ Use only packagings, large packagings, 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 (see sections 8 to 10);
- ▶ Comply with the requirements on the means of dispatch and on forwarding restrictions (see sections 12 and 13);

- ▶ Ensure that empty, uncleaned tanks (tank-vehicles, demountable tanks, battery-vehicles, MEGCs, portable tanks and tank-containers) including those that have not been degassed, or empty, uncleaned vehicles and bulk containers are appropriately placarded, marked and labelled, and that empty uncleaned tanks are closed and are leakproof to the same degree as when they are full;
- ▶ Comply with security measures as appropriate (see section 15);
- ▶ Ensure the driver has an ADR driver training certificate (see section 6);
- ▶ Ensure emergency procedures are in place (see section 16);
- ▶ Ensure all employees are appropriately trained in advance of working with dangerous goods (see section 6).

If the consignor uses the services of other participants (for example, packer, loader, filler), they must ensure that the consignment meets the requirements of ADR. In some instances, the consignor may rely on information and data made available by other participants.

When the consignor acts on behalf of a third party, the latter shall inform the consignor in writing that dangerous goods are involved and provide the relevant information and documents for the consignor to perform their obligations.

### 3.2.2 Carrier

The carrier is the enterprise performing the actual carriage of dangerous goods in or on a vehicle, for example, a logistics company, courier, vehicle owner or operator (who may also be the consignor or driver, as a self-employed vehicle owner operator).

The carrier must in particular:

- ▶ Ensure the dangerous goods are authorised for carriage in accordance with ADR (by means of confirmation from the consignor or otherwise);
- ▶ Ensure all information relating to the dangerous goods has been provided by the consignor before carriage (see section 13) and the 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;

- ▶ Check that the vehicles and loads have no obvious defects, such as, leakages, cracks or missing any equipment. Check 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);
- ▶ Verify the vehicles are not overloaded;
- ▶ Ensure the placards, marks and orange-coloured plates prescribed for the vehicles have been affixed (see sections 9 and 10);
- ▶ Check the equipment prescribed in the written instructions for the driver is on board the vehicle (sections 11 and 13). This must also take account of fire extinguisher requirements (see section 11.2);
- ▶ Comply with security measures as appropriate (see section 15);
- ▶ Ensure emergency procedures are in place (see section 16);
- ▶ Ensure the 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);
- ▶ Provide the vehicle crew with the instructions in writing as prescribed in ADR (see section 13).

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

In some instances, the carrier may rely on information and data made available by other participants (for example, consignor, loader, packer or filler).

If the carrier observes an infringement of the requirements of ADR, the consignment should not be moved 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, the safe immobilisation of the consignment and public safety. The transport operation may only be continued once the consignment complies with applicable regulations.

### 3.2.3 Driver and vehicle crew

The driver 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.

Drivers and/or crew members must in particular:

- ▶ Carry their ADR driver training certificate (drivers) and photo identification (all crew members) (see section 6);
- ▶ Ensure they have read and understood the transport documentation in advance of the transport operation and raise and rectify any issue prior to driving the vehicle;
- ▶ Keep written emergency instructions (ADR instructions in writing) readily available in the cab;
- ▶ Check all vehicle safety equipment and personal protective equipment is provided and raise any deficiency or missing items with the carrier;
- ▶ Check the vehicle is properly plated, placarded and marked. Orange plates, placards and marks should be kept clean and removed or covered when not required;
- ▶ Ensure damaged or leaking packages are not loaded;
- ▶ 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;
- ▶ Not carry passengers (apart from members of the vehicle crew) when carrying dangerous goods;
- ▶ Know how to use fire extinguishers;
- ▶ Not open a package containing dangerous goods;
- ▶ Ensure any torch or lighting apparatus used does not exhibit any metal surface liable to produce sparks;
- ▶ Ensure smoking is prohibited during handling operations in the vicinity of vehicles and inside the vehicles;

- ▶ Ensure the engine is shut off during loading and unloading operations, except where required 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;
- ▶ Ensure vehicles carrying dangerous goods are parked with the parking brakes applied and that trailers without braking devices are restrained from moving by applying at least one wheel chock;
- ▶ In the case of a transport unit equipped with an anti-lock braking system consisting of a motor vehicle and trailer, ensure the electrical connections connect the towing vehicle and the trailer at all times during carriage;
- ▶ If responsible for tank filling or emptying, ensure as may be appropriate (for example, for flammable liquids) that there is a good electrical connection to the earth prior to the emptying or filling operation;
- ▶ Ensure no dangerous residues of the filling substance adhere to the outside of the tank being filled or emptied;
- ▶ 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 re-secured to the vehicle (see section 12);
- ▶ Ensure that vehicle supervision provisions are adhered to (see section 12.5).

### 3.2.4 Packer

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

The packer must in particular:

- ▶ Comply with requirements concerning packing provisions, or mixed packing provisions. These requirements vary and may require input from a DGSA (see section 12);
- ▶ Comply with the requirements concerning marking and labelling of the packages when preparing packages for carriage (see section 8).

### 3.2.5 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:

- ▶ Check prior to the filling of a tank, that the tank and its equipment are in a satisfactory technical condition;
- ▶ Ensure the date of the next test for tank-vehicles, battery-vehicles, demountable tanks, portable tanks, tank-containers and MEGCs has not expired;
- ▶ Only fill a tank with the dangerous goods authorised for carriage in that tank;
- ▶ In filling a tank, comply with the requirements concerning dangerous goods in adjoining compartments;
- ▶ During the filling of a tank, observe the maximum permissible degree of filling or the maximum permissible mass of contents per litre of capacity for the substance being filled;
- ▶ After filling a tank, check the closing devices are leakproof;
- ▶ Ensure no dangerous residue of the filling substance adheres to the outside of the tank;
- ▶ When preparing the dangerous goods for carriage, ensure the placards, marks, orange-coloured plates and labels are affixed to the tank, on the vehicle and on the containers for carriage in bulk in accordance with ADR;
- ▶ When filling vehicles or containers with dangerous goods in bulk, ensure the relevant provisions of ADR Chapter 7.3 are complied with.

### 3.2.6 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:

- ▶ Hand the dangerous goods over to the carrier only if they are authorised for carriage in accordance with ADR;

- ▶ When handing over packaged dangerous goods or uncleaned empty packagings for carriage, check the packaging for damage. Damaged packaging (particularly if it is not leakproof, there are leakages or the possibility of leakages), should not be handed over until the damage has been repaired. This obligation also applies to empty uncleaned packagings.
- ▶ When loading dangerous goods in a vehicle, or a large or small container, comply with the special requirements concerning loading and handling (see ADR 7.5.11);
- ▶ After loading dangerous goods into a container, comply with the requirements concerning danger markings conforming to ADR Chapter 5.3 (see also section 9);
- ▶ 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 (see ADR Chapter 7.5).

The loader may rely on information and data made available by other participants.

### 3.2.7 Tank-container or portable tank operator

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

The tank-container or portable tank operator must in particular:

- ▶ Ensure compliance with the requirements for construction, equipment, tests and marking;
- ▶ Ensure the maintenance of shells and their equipment is carried out so that, under normal operating conditions, the tank-container or portable tank satisfies the requirements of ADR until the next inspection;
- ▶ Have an exceptional check carried out when the safety of the shell or its equipment has been impaired by a repair, an alteration or an accident.

### 3.2.8 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:

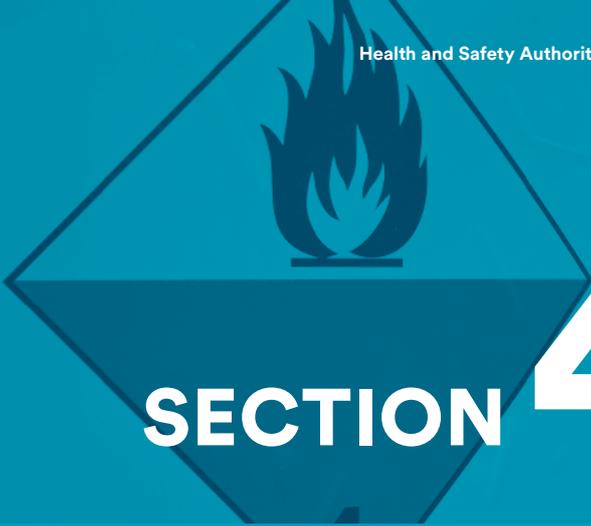
- ▶ Ensure the correct goods are unloaded by comparing the relevant information on the transport document with the information on the package, container, tank, MEMU, MEGC or vehicle;
- ▶ Before and during unloading, check if the packagings, the tank, the vehicle or container have been damaged to an extent which would endanger the unloading operation. If this is the case, ensure that unloading is not carried out until appropriate measures have been taken;
- ▶ Comply with all relevant requirements concerning unloading and handling;
- ▶ Immediately following the unloading of the tank, vehicle or container:
  - Remove any dangerous residues which have adhered to the outside of the tank, vehicle or container during the process of unloading; and
  - Ensure the closure of valves and inspection openings;
- ▶ Ensure that the prescribed cleaning and decontamination of the vehicles or containers is carried out;
- ▶ Ensure placards, marks, and orange-coloured plates displayed in accordance with ADR Chapter 5.3 are removed when containers are completely unloaded, cleaned and decontaminated;
- ▶ If the unloader uses other services, such as a decontamination facility, appropriate measures must be taken to ensure the requirements of ADR have been complied with.

### 3.2.9 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:

- ▶ 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;
- ▶ If, in the case of a container, this verification brings to light an infringement of the requirements of ADR, the consignee shall return the container to the carrier only after the infringement has been remedied; and
- ▶ If the consignee makes use of the services of other participants or services (for example, unloader, decontamination facility), ensure appropriate measures are taken so that the requirements above have been complied with.



# SECTION 4

## DANGEROUS GOODS SAFETY ADVISER (DGSA)

**Businesses whose activities include the consignment, carriage or the related packing, loading, filling or unloading, of dangerous goods must appoint one or more safety advisers, commonly referred to as a DGSA.**

The role of the DGSA 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 DGSA 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, such companies may still require support from a DGSA from time to time. To assess whether you are required to appoint a DGSA, see the HSA website for [DGSA Information](#).

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 for management or a competent 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 competent authority on request.

# SECTION 5

## EXEMPTIONS

### 5.1 ADR Exemptions (ADR 1.1.3)

The following activities are exempt and therefore not subject to ADR:

#### (a) Carriage of dangerous goods by private individuals

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 L per receptacle or 240 L per transport unit.

#### (b) Carriage of machinery or equipment not specified in ADR

The carriage of machinery or equipment not specified in ADR which 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 (for example, fridges which contain refrigerant gases).

#### (c) Carriage undertaken by enterprises, which is ancillary to their main activity

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 L per packaging;
- ▶ within the maximum quantities specified in ADR 1.1.3.6 (for small load exemption, see 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 dangerous goods (radioactive materials).

Qualifying examples for carriage 'ancillary to the main activity' of the enterprise:

- ▶ 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 or repair work;
- ▶ Carriage of oxygen cylinders for use in emergency situations or first-aid
- ▶ Carriage of flammable paints and varnish by a painter;
- ▶ Carriage of farm supplies by a farmer;
- ▶ Community nurses or doctors carrying clinical waste;
- ▶ Sales representatives carrying samples, which are not for distribution.

The dangerous goods carried under this exemption will generally be required for immediate use by the participant, for example, employees of an engineering company carrying small quantities of fuel for a generator, oxy/acetylene sets for maintenance activities, and aerosols (UN 1950) in their vehicles. These dangerous goods are required for specific work activities and are not the main activity of the engineering company.

If you purchase flammable paints directly from a wholesaler and load these into the vehicle for immediate use or delivery to your work place or another work location, 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 or supply of material, which includes dangerous goods), then this activity does not qualify.

Carriage undertaken by enterprises for their **own supply or distribution** does not fall within the scope of this exemption and therefore may be subject to other provisions of the regulations and ADR.

This exemption is not available to **couriers or transport companies**, the main activity of which is "transportation" and includes dangerous goods from time to time, irrespective of the quantity of dangerous goods carried. This is also likely to be the case for larger organisations that operate a dedicated distribution vehicle.

If this exemption does not apply to your particular activity, you may be able to avail of the small load exemption (see section 5.2).

General good practices that need to be observed under the provisions of this exemption include:

- ▶ The packaging (for example, drums or cylinders) should be used as supplied by the packaging manufacturer (typically UN approved) and be marked and labelled with the appropriate hazard label and UN number;
- ▶ All packagings must be secured in the vehicle so as not to be able to move under normal conditions of carriage, and must be unlikely to leak. For example, it must be ensured that all cylinder valves on the oxy/acetylene sets 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";
- ▶ A risk assessment should be carried out and any additional measures should be applied. For example, the results of the risk assessment may highlight the requirement for additional safety equipment in the vehicle, such as a fire extinguisher or a spill kit.
- ▶ Although not required by ADR, it is considered good practice to attach labels to the load compartment access doors of 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) Carriage of uncleaned empty static storage vessels

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 (for example, environmentally hazardous substances); or pesticides of Class 6.1, toxic substances belonging to packing group II or III, subject to the following conditions:

- ▶ All openings with the exception of pressure relief devices (when fitted) are hermetically closed;
- ▶ Measures have been taken to prevent any leakage of contents in normal conditions of carriage; and
- ▶ The load is fixed in cradles or crates or other handling devices or to the vehicle or container in such a way that 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

The provisions laid down in the ADR do not apply to the carriage of:

- ▶ 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 (such as refrigerating equipment);
- ▶ Gases contained in the fuel tanks of vehicles, which are being transported. The fuel cock between the gas tank and the engine must be closed and the electric contact must be 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 200kPa (2bar) and if the gas is not a liquefied or a refrigerated liquefied gas. This includes every kind of receptacle or tank such as in parts of machinery and apparatus;
- ▶ Gases contained in the equipment used for the operation of the vehicle such as fire extinguishers, including gases in spare parts (such as 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 (for example, cooling systems, fish-tanks, heaters) as well as spare receptacles for such equipment or uncleaned empty exchange receptacles, transported in the same transport unit;
- ▶ Gases contained in foodstuffs (except UN 1950 aerosols), including carbonated beverages;
- ▶ Gases contained in balls intended for use in sports; and
- ▶ Gases contained in light bulbs provided they are packaged so that the projectile effects of any rupture of the bulb will be contained within the package.

### (f) Carriage of liquid fuels

The provisions laid down in the ADR do not apply to the carriage of:

- ▶ 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 L per transport unit and the capacity of a tank fitted to a trailer must not exceed 500 L. A maximum of 60 L per transport unit may be carried in portable fuel containers. These restrictions do not apply to vehicles operated by the emergency services;
- ▶ Fuel contained in the tanks of vehicles or 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 Exemption (ADR 1.1.3.6)

The carriage of dangerous goods using this exemption is commonplace, and may be applied to many situations in which relatively small quantities of packaged dangerous goods are carried for distribution. It allows you to carry up to a specified amount of dangerous goods in packages with the application of minimal requirements only.

You may require the assistance of a DGSA when interpreting and carrying out calculations under this exemption.

Where the dangerous goods carried in the transport unit belong to the same 'transport category' as provided in column (1) of Table 1 below, the maximum total quantity which can be carried per transport unit under this exemption is indicated in column (3) of the table (ADR 1.1.3.6.3). To note, Table 1 is for indicative purposes only. For up to date information and individual UN numbers listed under the transport categories, refer to the current edition of the ADR and Table 1.1.3.6.3.

**Table 1**

**Exemptions related to quantities carried per transport unit**

Transport category	Substances or articles packing group or classification code/group or UN No.	Maximum total quantity per transport unit
(1)	(2)	(3)
0	Specified extremely high risk materials	0
1	Substances and articles belonging to packing group I and not classified in transport category 0 and substances and articles of specific classes and UN numbers listed in ADR 1.1.3.6.3	20
2	Substances belonging to packing group II and not classified in transport categories 0, 1 or 4 and substances and articles of specific classes and UN numbers listed in ADR 1.1.3.6.3	333
3	Substances belonging to packing group III and not classified in transport categories 0, 2 or 4 and substances and articles of specific classes and UN numbers listed in ADR 1.1.3.6.3	1000
4	Substances and articles of specific classes and UN numbers listed in ADR 1.1.3.6.3 and empty, uncleaned packagings having contained dangerous goods, except for those classified in transport category 0	Unlimited

For the purposes of the small load exemption, dangerous goods are assigned to transport categories 0, 1, 2, 3 or 4, as indicated in column 1 of Table 1.

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

For example, Class 2 aerosols, UN 1950, group F (flammable aerosols) belong to transport category 2, and thus may be carried under this exemption in quantities of up to 333 L when no other dangerous goods are carried.

- (b) When carrying goods of **different transport categories** in the same transport unit, the exemption applies if the sum of goods carried does not exceed 1,000 units. However, each category must also be multiplied by the appropriate multiplying factor before adding **the calculated value** of each category together, as provided in Table 2. Some examples of this calculation are provided later in this section.

**Table 2**

**Calculated values**

Transport category	Multiplying Factor.
1	50
1*	20
2	3
3	1
<b>Sum of the 'calculated value' of the dangerous goods must not exceed 1,000</b>	

\* For UN Nos. 0081, 0082, 0084, 0241, 0331, 0332, 0482, 1005 and 1017

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

- ▶ Security provisions (see section 15);
- ▶ Placarding and marking (the vehicles do not require orange plates and containers do not require placards);
- ▶ Instructions in writing (see section 13.4);
- ▶ Vehicle certification (ADR Part 9);
- ▶ ADR driver training certification (see section 6.2).

Additionally under this exemption, the following provisions are reduced:

- ▶ ADR provisions concerning carriage in packages (ADR 7.2);
- ▶ Restrictions regarding loading and unloading in public places;
- ▶ Requirements for vehicle crews, equipment, operation and documentation (except for those listed below which still apply).

**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 and the calculated value 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 carry a means of identification, including a photograph;**
- ▶ **Driver and crew must not open dangerous goods packages;**
- ▶ **Any torch carried must be non-sparking.**
- ▶ **There must be no smoking during handling in or around the vehicle.**

For application of this exemption, Table 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 and packing group of the substance must be identified. Such information may be obtained from safety data sheets (SDS), which should be provided with all hazardous chemicals. Section 14 of a standard SDS provides information in relation to the transport of hazardous chemicals. Updates to regulatory information regarding SDSs are provided on the chemicals page of our [website](#).

## Examples of small load exemption

### 1. Carrying substances within the same transport category

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, which are subject to ADR, noting that all belong to PG III.

From Table 1 above, 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 or 1,000 L**. Thus in order to avail of the exemption, each shipment must not exceed 1,000 kg or 1,000 L.

For each transport operation, if the load does not exceed 1,000 kg or 1,000 L, the main provisions that **apply** include:

- ▶ A transport document must be carried, with details (see section 13) for each hazardous substance carried;
- ▶ A 2 kg fire extinguisher must be carried in the vehicle;
- ▶ The driver and crew must have received appropriate general training including chemical awareness and emergency action training;
- ▶ The dangerous goods packages must not be opened;

- ▶ 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;
- ▶ A risk assessment should be carried out and any measures identified in that assessment should be implemented.

### 2. Carrying substances within different transport categories

The company is in a similar situation 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 carried on the vehicle.

A particular transport operation involves the carriage of the following:

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

In order to ensure the shipment can still avail of the exemption, apply the multiplying factors shown in Table 2, and insert all values in Table 3 as follows:

**Table 3**

**Determination of calculated values**

Dangerous goods	Transport category	Quantity (L)	Multiplying factor	Calculated Value
Paint Group A	3	400	1	400
Paint Group B	2	20	3	60
Lacquer	2	<b>100</b>	3	<b>300</b>
Cleaner	3	50	1	50
<b>Total</b>				<b>810</b>

The sum total of the calculated values 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 L, then the situation would be as provided in Table 4.

**Table 4****Determination of calculated values**

Dangerous goods	Transport category	Quantity (L)	Multiplying factor	Calculated Value
Paint Group A	3	400	1	400
Paint Group B	2	20	3	60
Lacquer	2	<b>200</b>	3	<b>600</b>
Cleaner	3	-50	1	50
<b>Total</b>				<b>1,110</b>

The sum total of calculated values, being greater than 1,000 would mean this exemption is not applicable and **all** the regulations would apply.

**3. Door-to-door deliveries**

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

This company is advised to avail of the **small load exemption** if possible, to avoid the necessity of meeting 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 L, thus allowing up to 50 drums with a capacity 20 L each (total 1,000 L).

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.

For example, the company needs to deliver 5 LPG cylinders (4 x 11 kg and 1 x 5 kg) and wants to calculate how many kerosene drums it can carry whilst still being able to avail of the small load exemption. Table 5 can be used to calculate this.

**Table 5****Calculated values for door-to-door deliveries**

Dangerous goods	Transport category	Quantity (Kg/L)	Multiplying factor	Calculated Value
Kerosene (UN 1223)	3	?	1	?
LPG (UN 1965)	2	49	3	147
<b>Total</b>				<b>≤ 1,000</b>

From Table 5

$$1,000 - 147 = 853$$

The company can therefore carry ( $853 \div 20 = 42.7$ ), that is, up to 42 kerosene drums (20 L each, total 840 L) and avail of the exemption in this transport operation.

$$840 + 147 = 987$$

If loads are within the small load exemption limits (that is, the sum of the calculated values is not more than 1,000), the only requirements that apply are the following:

- ▶ The fuel must be carried in UN approved packaging, marked and labelled;
- ▶ A transport document must be carried, with the relevant details (see section 13), including the **calculated value** of all dangerous goods carried in the transport operation. For delivery sales (door to door sales), 'Delivery Sale' may be inserted 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 and function specific training in relation to the handling of cylinders and drums, and the hazards relating to flammable gases and liquids (see section 6);
- ▶ 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;
- ▶ A risk assessment should be carried out and any measures identified in the assessment should be implemented.

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 the company will be required to appoint a DGSA.

## 5.3 National Exemptions (National Regulations)

Our national regulations specify additional "national" exemptions (or national derogations) for carriage of dangerous goods within the State only (see [Legislation - Health and Safety Authority](#)).

These issues can be complex, so if you are in any doubt you should seek advice from a DGSA.

Some of the most widely used exemptions 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.
- ▶ Customer (consignee) details are not required on the transport document for kerosene, diesel and LPG fuel deliveries to the end user.
- ▶ When carrying dangerous goods for retail distribution and subject to certain quantity limits, the inner packages of dangerous goods originally packaged in limited quantities or combination packaging may be carried on the final leg of a local distribution journey without an outer packaging.
- ▶ Regulations for transport do not apply to gases used as dispensing agents for beverages when the gases and beverages are carried together on the same vehicle.

## 5.4 Limited Quantities (LQ) (ADR 3.4)

Limited quantity (LQ) exemptions are applicable to the carriage of dangerous goods of certain classes packed in specified small packaged quantities (for example, 5 kg or 5 L maximum per inner package). Each inner package must be placed in suitable outer packaging with a gross mass limit of 30 kg (that is, the total weight of inner packages and outer packaging should not 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 (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. For certain Class 8 (corrosive) goods, you may need to get advice from a DGSA with regard to the packaging required.

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

Packages containing dangerous goods in limited quantities must bear the marking in Table 7 (section 8.1) for the indicated modes of transport.

The mark must be a minimum of 100 mm x 100 mm with a diamond outline of at least 2 mm (unless the package is too small then a minimum of 50 mm x 50 mm with a diamond outline of at least 1 mm). The 'air' mark has a capital letter 'Y' in the centre of the mark. When transporting goods in accordance with air requirements and the air mark is applied, this mark is accepted for the other modes of transport.

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

- ▶ Orange plates are not required on vehicles;
- ▶ Vehicle marking is not required for consignments under 8 tonnes. A vehicle over 8 tonnes must be marked with the same mark as for packages at the front and rear of the vehicle (see sections 8 and 9);
- ▶ Drivers are not required to hold an ADR driver training certificate;
- ▶ No other hazard labels or UN number marking are required;
- ▶ Vehicle safety equipment or PPE is not required;
- ▶ Fire extinguishers are not required;
- ▶ Instructions in writing are not required;
- ▶ Transport documents are not required (except for sea shipment where a container packing certificate is required) (see also section 13).

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.

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.

## 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 Table 7 (section 8.1) in the form of a placard (large label or placard dimensions should be 250 mm x 250 mm).

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.

## Example

### 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 L bottles, and the total quantity carried ranges from 3,000 L to 10,000 L.

The small load exemption cannot be used because of the total volumes. However, as the product is carried in relatively small packagings (2.5 L), the next thing to check is if 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, PG III, the LQ limit is 5 L, and so the load can be carried under the LQ exemption.

LQ provisions 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.

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

**You may require a DGSA to advise on the relevant LQ provisions.**

**Note:** Where small quantities are to be delivered to a retail customer, where the 2.5 L inner containers have been transported in a multi pack, for example, 4 x 2.5 L box with the LQ mark on the box, the inner 2.5 L containers may be carried after removal from the outer packaging. This additional exemption is provided for in our national regulations (retail distribution by road), and in this case the total quantity transported must be less than 333 L or kg.

## 5.5 Excepted Quantities (ADR 3.5)

The excepted quantities exemption is similar to the limited quantity exemption, but it 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 6.

**Table 6**

**Excepted quantities: maximum net quantities**

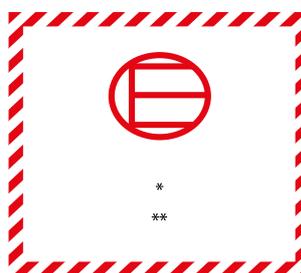
Code	Maximum net quantity per inner packaging (in grams for solids and ml for liquids and gases)	Maximum net quantity per outer packaging (in grams for solids and ml for liquids and gases, or sum of grams and ml in the case of mixed packing)
E0	Not permitted as excepted quantity	
E1	30	1,000
E2	30	500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

If documents (for example, a consignment note) accompany dangerous goods in excepted quantities, at least one of the documents must include the statement "dangerous goods in excepted quantities" and indicate the number of packages.

**Figure 1**

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



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.

# SECTION 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 if such training has not been provided, employees must only perform functions under the **direct supervision** of a trained person.

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

Apart from persons who attain certification for their role in the carriage of dangerous goods such as certified drivers (section 6.2) and DGSAAs (section 4), there may be many other persons employed by an organisation that have duties concerned with the carriage of dangerous goods.

Such persons include:

- ▶ Personnel other than drivers employed by an organisation concerned with any aspect of the carriage of dangerous goods (see section 3);
- ▶ Personnel who load or unload dangerous goods;
- ▶ Personnel in freight forwarding or shipping agencies;
- ▶ Drivers of vehicles other than those holding a certificate. Such drivers may include those who carry small amounts of dangerous goods under one or more of the exemptions listed in section 5.

The sections below provide the various elements of the training applicable to **all personnel, including certified drivers**, along with some practical examples.

### General Awareness and Safety Training

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

Personnel must be trained in the hazards and dangers presented by dangerous goods to a level in line 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.

### Function Specific Training

Personnel must be trained to a level applicable to their **duties and responsibilities** under the provisions concerning the carriage of dangerous goods.

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

The purpose of this type of training is to bring each member of staff to the level of competency required to carry out his or her function or role in the organisation.

### Security Training

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

### Refresher Training

All training must be supplemented periodically with refresher training to take account of changes in regulations, and at least every two years to coincide with each new edition of the ADR. Toolbox talks can be used to provide such training, and can include information on changes or updates to practices and procedures.

## 6.2 Driver training and examination

Drivers of vehicles carrying dangerous goods must hold a training certificate issued by the competent authority. To obtain a certificate, drivers must complete a training course by an approved training provider and pass an examination on the particular requirements that have to be met during the carriage of dangerous goods.

In Ireland, drivers who pass this examination will be issued with a driver training certificate, in accordance with ADR. The certificates issued by each of the contracting parties to the ADR are available on the UNECE website (see [ADR certificates](#)). ADR driver training certificates are **mutually recognised** by all ADR contracting parties.

Drivers must undergo refresher training and examination every five years. Basic training is available to all, and there is the option for some additional specialised training.

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

Up to date information in relation to driver training is available on our website:

[Training - Driver & Vehicle Crew - Health and Safety Authority](#)

A general '[Driving for work handbook](#)' has been jointly developed by An Garda Síochána, the Health and Safety Authority and the Road Safety Authority as a tool for working drivers to help them understand and manage the risks that they face and create when driving for work.

'[Driver health guidelines](#)' were also developed jointly by the Health and Safety Authority, An Garda Síochána and the Road Safety Authority to make all working drivers more aware of the main health issues that may affect them and, consequently, to improve their ability to drive safely.

## 6.3 DGSA training and examination

Unlike driver training courses, there are no approved training providers for DGSAs, and it is not mandatory to attend training provided by commercial trainers. Individuals can 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 issued by the competent authority or an appointed body are recognised throughout all ADR contracting parties. See our website for [DGSA information](#).

# SECTION 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. The HSA does not undertake the classification of substances, solutions, mixtures, preparations or waste. This duty falls to the consignor.

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

However, if your business involves **the production of** substances or articles that may pose a danger because of the nature of the substance or article (for example, 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.

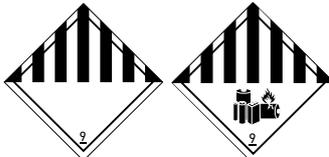
**It is advisable to seek advice from a DGSA when carrying out such classification.**

In addition to your duties as consignor outlined above in section 3 you may have additional legal responsibilities in relation to the classification of chemicals for supply and use. Guidance on classification under the CLP Regulation and related legal requirements is available on the [HSA chemicals web pages](#).

**All substances must be classified prior to carriage 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.**

## 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 13 classes, as shown below, with a corresponding class or hazard label.

<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> 

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 and articles, many of which are identified in ADR, or if not individually identified, then by generic group identification. Each individual substance or group of substances or articles 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 below:

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

On the basis of its 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).

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, in brackets, on the identification line after the primary class hazard.

For example the entry on the transport document for methanol is as follows:

**"UN1230, Methanol, 3(6.1), PG II"**

This indicates it is a Class 3, flammable liquid with a secondary hazard, Class 6.1, toxic.

If methanol is an industrial effluent waste stream then the word "WASTE" would have to appear on the transport document in accordance with ADR:

**"UN1230, Waste Methanol, 3(6.1), PG II"**

This indicates it is a waste, Class 3, flammable liquid with a secondary hazard, Class 6.1, toxic.

Depending on the nature of the activity, the process of classification of waste may be very straightforward or it may be very complex, as demonstrated in the examples in section 18.

# SECTION 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 and articles consigned for carriage by road. It is recommended that you seek the advice of a DGSA when carrying out this task.

- ▶ **Markings:** the most significant mark in the ADR is the **UN number** of the substance or article and other marks include the environmentally hazardous substance mark, lithium battery mark and orientation arrows. Marks are designed to meet certain specifications. The dimensions of a mark depend on the use and application.
- ▶ **Labels** are standard hazard symbols, designed to meet certain specifications. They are placed on packagings, packages or overpacks (as defined in the ADR). The exact specification and applications that apply to labels can be found in ADR.

- ▶ **Placards** are standard hazard symbols, the same as labels but larger, and are placed on tanks, containers, bulk containers, MEGCs, MEMUs, tank containers, portable tanks and other vehicles used for transport. Placards have a **minimal size of 250mm x 250mm**.

Packages generally require the appropriate mark(s) and labels **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 packagings (as defined in the ADR), the labels and marks are required on two opposite sides.

**Figure 2**

**Example of a label for a substance classified as class 4.2, substance liable to spontaneous combustion. Labels have a minimal size of 100 mm x 100 mm**



## 8.1 Packaging and marking

The ADR specifies the correct way to package dangerous goods, be it in a box, drum, IBC, large packaging or other system(s) 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 3 and 4.

Figure 3

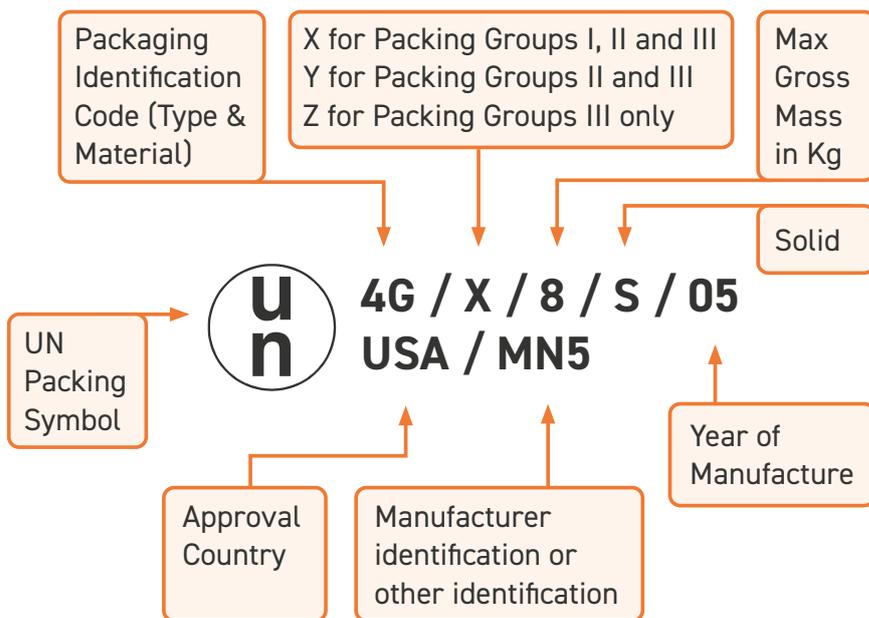
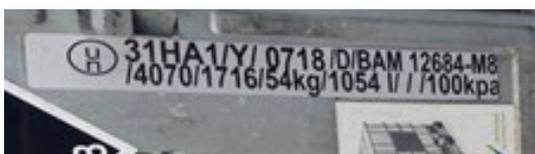


Figure 4



When selecting the correct package type, it must be ensured that the "packing instruction" in ADR 4.1.4.1 is followed and the package is suitable for the dangerous goods. The various packing instructions for individual UN numbers are provided in the ADR Dangerous Goods List (Chapter 3.2, Table A, Column 8).

**Dangerous goods and packaging must be correctly matched. Always discuss your requirements with packaging suppliers.**

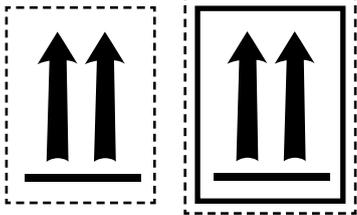
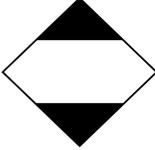
The more precisely you specify the product to be filled or contained, the better your supplier can recommend the correct packaging to be used, and the frequency of inspection and testing required where applicable.

For example, the owner of an IBC is required to ensure testing and inspection of the IBC is undertaken as required, but not exceeding 2.5 year cycles.

Examples of **additional marks** which may be required on packages for transport are provided in Table 7.

**Table 7**

**Examples of additional package marking**

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"> <li>• Combination packaging having inner packaging containing liquids</li> <li>• Single packaging fitted with vents</li> <li>• Cryogenic receptacles intended for the carriage of refrigerated liquefied gases</li> </ul> <p>Apply on two opposite sides</p>
	<p>Elevated temperature substances mark</p> <p>Applied to tanks, tank-containers etc.</p> <p>Mark is not for packages</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>
 	<p>Vehicle and container coolant warning mark</p> <p>Lithium battery mark</p>

## 8.2 Hazard labelling

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

Labels for transport are the hazard or class labels as provided in section 8. They have a minimal **size of 100 mm x 100 mm**, but may be smaller if the package size is smaller.

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

If **“overpacks”** are applied (such as shrink-wrapping or adding another layer of packaging for transport) and if the marks and labels are obscured, all such marks and labels must be re-applied, along with the word **“OVERPACK”**. For more detailed provisions regarding the use of overpacks, see section 8.

### Labelling under supply and use legislation

Packages also need to be labelled according to the [CLP Regulation](#) on classification, labelling and packaging of substances and mixtures. This regulation provides for specific rules in relation to labelling of outer packaging, inner packaging and single packaging.

CLP labelling is normally required on every layer of a packaging intended for supply and use. Labelling in accordance with ADR provisions is required on the outer packaging of dangerous goods and in such cases, a CLP label may also appear on an outer packaging.

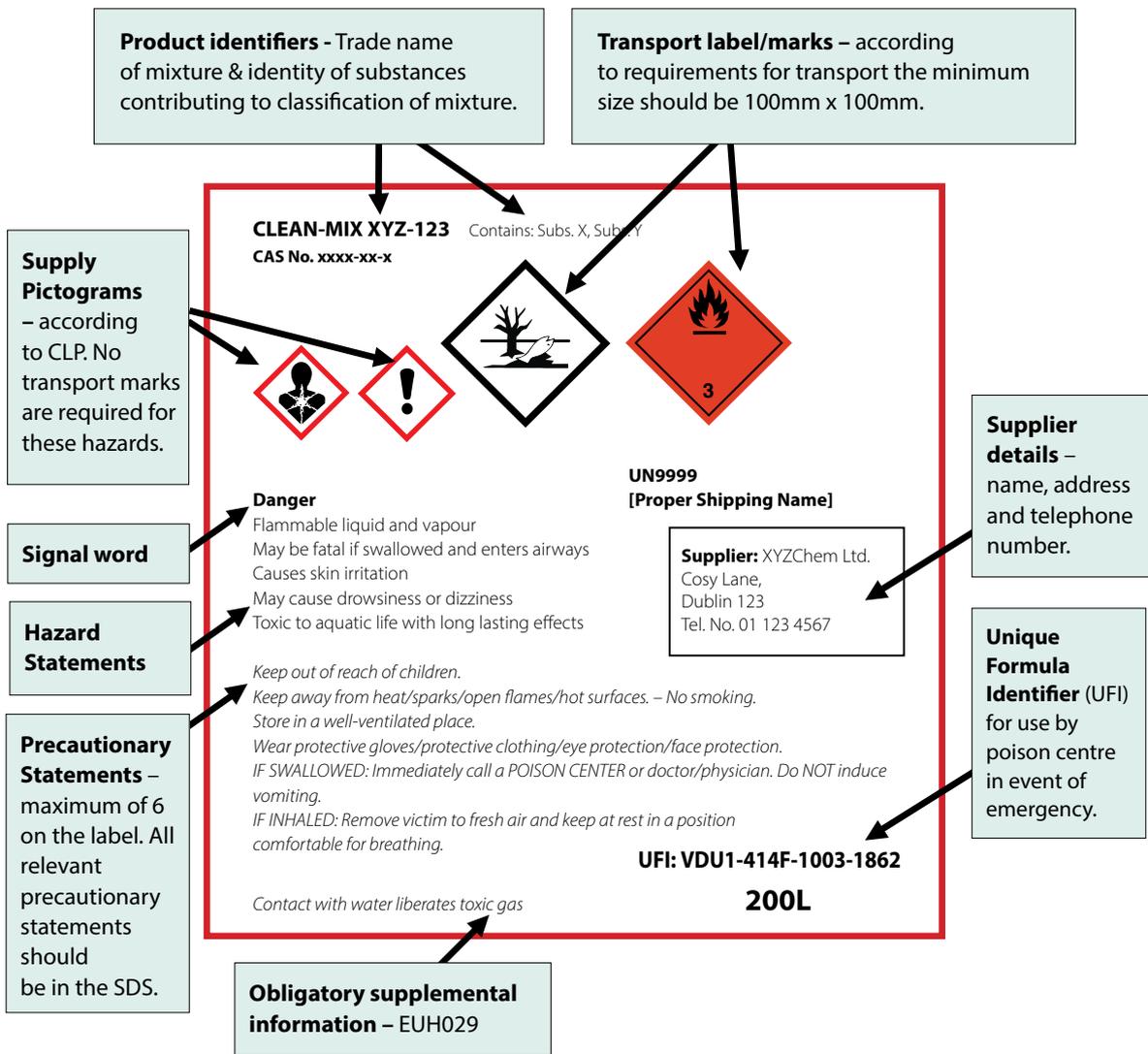
Single packages need to carry both the CLP label and transport labelling (see Figure 5). If a CLP hazard pictogram on single or outer packaging relates to the same hazard as in the rules for the transport of dangerous goods, the CLP pictogram may be omitted to avoid unnecessary double labelling.

When a package consists of an outer and an inner packaging, together with any intermediate packaging, and the outer packaging meets the labelling provisions of the ADR, the hazard pictograms required by the CLP Regulation do not need to appear on the outer packaging. Note that limited/excepted quantity marks are considered as transport labelling. Therefore, a CLP label is not required when those marks are carried on the outer packaging. CLP labelling in such cases is optional.

For more detailed guidance on labelling for supply and use see the HSA CLP information sheet published in October 2021. [Classification, Labelling & Packaging according to the CLP Regulation - Information Sheet - Health and Safety Authority](#).

Figure 5

Example of a hazard Label for Supply and Transport



Note that section 14 of the [safety data sheet](#) (SDS) provides the basic classification information for the transport/shipment of substances or mixtures by road, rail, sea, inland waterways or air. The SDS must also state when such information is not available or not relevant.

## 8.3 Use of overpacks

The ADR defines “overpack” as an enclosure used to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage.

Examples of overpacks:

- (a) A loading tray such as a pallet, on which several packages are placed or stacked and secured by a plastic strip, shrink or stretch wrapping or other appropriate means; or
- (b) An outer protective packaging such as a box or a crate.

If it is not possible to see **all** of the marks and labels on each and every individual package, the overpack must be:

Marked with the word “OVERPACK”, with letters that are at least 12 mm high;

Marked with the UN number;

Bear all of the relevant marks and labels as described in section 8;

Where applicable, orientation arrows must be applied on two opposite sides.

Each mark and label only needs to be applied once.

This provision applies under the limited quantity (LQ) provisions. If all of the individual LQ marks are not visible, the LQ mark is applied to the outside of the overpack, in addition to the word “OVERPACK”.

# SECTION 9

## VEHICLES, MARKING AND LABELLING

Some vehicles used to transport dangerous goods are highly specialised (for example, vehicles used to transport explosives). Such vehicles must be certified annually for the transport of dangerous goods. The Road Safety Authority ([www.rsa.ie](http://www.rsa.ie)) oversees the annual vehicle certification process.

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

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.

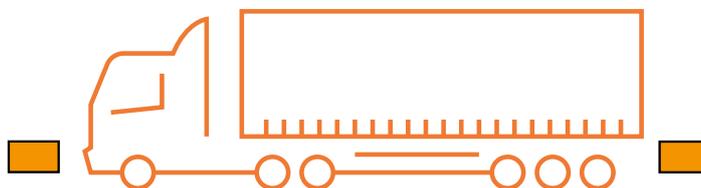
**Figure 6**

**Vans/box vans/curtain sided vehicles:**

Orange plates placed front and rear of the vehicle.

No placards.

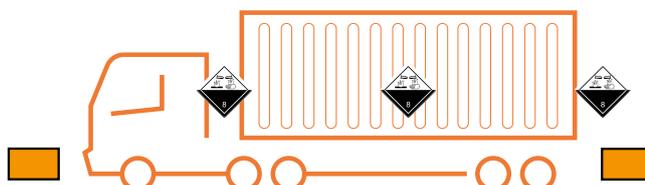
If boarding a ship the relevant placards must be applied on the sides and rear.



**Freight containers:**

Orange plates placed front and rear of the vehicle.

Relevant placards on both sides and each end.



When carrying goods in bulk (unpacked 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 (for example, 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.*

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 (for example, their responsibilities include the removal or covering of ADR “orange plates” when all dangerous goods are unloaded).

# SECTION 10

## TANKS, MARKING AND LABELLING

Tanks (tank-container, portable tank, fixed tank [tank-vehicle], demountable tank, battery-vehicles and MEGCs) are subject to certification, periodic and intermediate inspection in accordance with the ADR.

Vehicles fitted with tanks must be certified annually for the transport of dangerous goods. The Road Safety Authority ([www.rsa.ie](http://www.rsa.ie)) oversees the annual vehicle certification process.

The type approval, initial inspection and in-service inspection of tanks must be carried out by an accredited and appointed inspection body. The only exception to this is in relation to tanks that were manufactured prior to 1 July 2003, which are suitable for national use only. The provisions for national tanks are available in our national regulations.

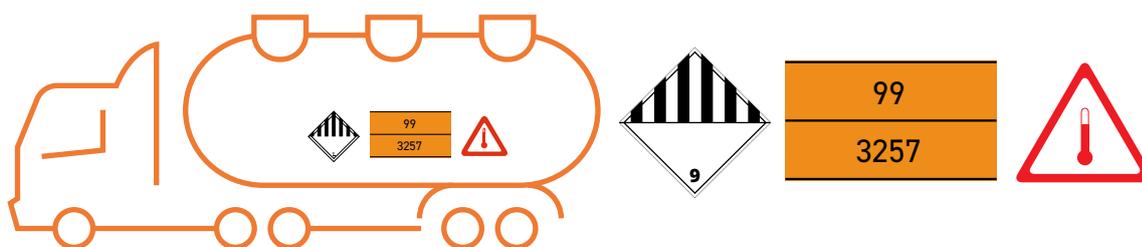
The certification and inspection of tanks is the responsibility of the carrier/tank operator and must be carried out in consultation with an appointed DGSA.

For the carriage of dangerous goods in tanks, ADR requires marking of both the vehicle and tank (for example, 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 7 provides an example of side tank marking and shows the numbered orange plate, class hazard placard and an elevated temperature mark (red triangle with thermometer).

**Figure 7**



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.

# SECTION 11

## VEHICLE SAFETY EQUIPMENT AND PERSONAL PROTECTIVE EQUIPMENT

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

It is the responsibility of carriers to provide safety equipment and PPE, and to ensure it is 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 (2 x 500 ml). This is 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 (for the carriage of flammable substances, an ATEX compliant torch is required);
- ▶ 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 in the risk assessment (for example, chemical spill kit, chemical over suit, protective overalls, safety boots, hard hat).

The **instructions in writing** document (ADR 5.4.3) contains 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 document (see also section 13).

## 11.2 Fire-fighting equipment

The ADR specifies fire extinguisher requirements for transport units carrying dangerous goods. Table 8 outlines the specific fire extinguisher requirements for various transport units.

**Table 8**

### Minimum provisions for portable fire extinguishers

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 a maximum 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 should have a minimum capacity of 6 kg.
Units with a maximum 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 should have a minimum capacity of 6 kg.
Units with a maximum 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 the 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 or on the vehicle and be easily accessible, that is, not locked in storage compartments in the vehicle.

# SECTION 12

## TRANSPORT PROVISIONS

The ADR sets out various requirements for transport for vehicles, for tanks, in bulk, in containers and in packages. 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.

Transport provisions are set out in various parts of the ADR. This section of the guide provides some additional guidance in relation to loading and unloading, load restraint, mixed packing and mixed loading provisions, and tunnel restrictions.

### 12.1 Loading, load restraint and unloading

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

Packages containing dangerous substances shall be properly stowed, and secured by suitable means capable of restraining the goods in the vehicle in a manner that will prevent the goods from falling from the vehicle, which could cause serious injury or death. Such restraint also prevents any movement during carriage, which would change the orientation of the packages or cause them to be damaged.

#### 12.1.1 Loading and load restraint

Checks must be carried out in all circumstances, prior to loading and transportation of dangerous goods, and if any of the following do not comply with the regulatory provisions, loading should not commence:

- ▶ Documentation;
- ▶ Visual inspection of the vehicle and its load (packaging, container, tank-container, bulk container, portable tank);
- ▶ Driver (training certificate);
- ▶ Transport and safety equipment carried on the vehicle, including personal protective equipment.



Check the following:

- ▶ Orientation arrows on packages are pointing in the right direction;
- ▶ As far as possible liquids are loaded below dry goods;
- ▶ Ensure weight is as evenly distributed as evenly as possible (load distribution);
- ▶ The vehicle is not overloaded and the load centre of gravity is kept as low as possible;
- ▶ Packages are not stacked unless they are designed for that purpose, there is no over stacking, and where necessary, stacked packages are prevented from damaging the goods below.
- ▶ **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 using the correct securing equipment for the types of load carried, for example, by filling voids with dunnage, use of anti-slip load matting, use of correct 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 and ensure straps comply with the relevant standard, identified by a label on the strap and a classification on the ratchet, and they are regularly inspected and are suitable for use.

It should be noted that **curtains on curtain-sided vehicles do not act as a part of the load security system** unless the entire trailer has been designed for that purpose according to the relevant standards. Otherwise loads on a curtain-sided vehicle must be properly secured.

In the case of vans, a bulkhead is fitted between the load holding area and the cab and becomes part of a load restraint system. The bulkhead provides protection to the driver.

Ideally designated proper load anchorage points should be used to anchor loads. If anchorage points are not fitted, loads should be anchored directly to the vehicle chassis. Rope hooks should **never** be used to anchor loads.

A number of participants have a duty with regards to load security, namely the carrier, loader, unloader and driver.

It is the responsibility of the carrier to provide and maintain in good working order adequate load security equipment for the vehicle. It is the responsibility of the driver to ensure the load is properly secured prior to departure and while on the road. The load security duty of the loader and unloader can be transferred in a **contract for carriage** when agreed with all parties (see section 3 for more information on the contract for carriage).

It is the duty of the employer to ensure their drivers, loaders, unloaders and supervisors have received the necessary instruction, information and training in load security in line with their roles and responsibilities.

## 12.1.2 Unloading

Unloading must not be carried out if an inspection of the driver's training certificate, vehicle, 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 the security of the load and for damage to packaging;
- ▶ Re-secure dangerous goods that have not been unloaded and remain on the vehicle.

For further information on load securing, please see the HSA website at this [link](#).

## 12.2 Mixed packing restrictions

Different dangerous goods or dangerous goods and other non-dangerous goods may be packed together in combination packagings (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 loading restrictions

Mixed loading restrictions (ADR 7.5.2) apply to certain dangerous goods. This means that packages of certain goods may not be loaded on the same vehicle or container. 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. For example, gas cylinders (Class 2) can be carried with corrosive liquids (Class 8) and flammable solids (Class 4.1), or any other combination falling outside the mixed loading restriction.

Restrictions also apply to loads containing foodstuffs or animal feeds when toxic (Class 6.1) or infectious (Class 6.2) substances or Class 9 substances of UN Nos. 2212, 2315, 2590, 3151, 3152 or 3245 are carried.

A DGSA should be consulted in relation to all load restrictions.

## 12.4 Tunnel restrictions

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 which apply. 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, and (iii) fires.

The tunnel category, assigned by the competent authority (in Ireland this is the National Roads Authority or Transport Infrastructure 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 9 indicates the categories and the corresponding letter which appears on the approach to a tunnel. Figure 8 gives an example of a category C tunnel, which applies to Dublin Port Tunnel.

Figure 8



**Table 9**

**Tunnel categories**

Tunnel category	A	B	C	D	E
Letter on approach	No sign, no restriction	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 Nos. 2919 and 3331, which apply to radioactive material transported under special arrangement).

Table 10 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** (see example below).

Dangerous goods carried in accordance with ADR 1.1.3 (see section 5) are not subject to the tunnel restrictions.



**Table 10****Dangerous goods restriction codes**

Restriction code of the whole load*	Requirement
-	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 Nos. 2919 and 3331).

## Example: tunnel restrictions

A company wants to carry a mixed load of pressure receptacles (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 needs to know if it can carry such loads through the Dublin Port Tunnel (Tunnel Category C).

The tunnel restriction codes (see Chapter 3.2 of the ADR, Table A, Column 15) for the goods being carried are:

- ▶ 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 ("B" applies to tanks and "D" applies to packages). From Table 10, it can be determined that for **packages** (that is, 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:** *If it is known that the journey will include passage through a tunnel, the tunnel restriction codes must be indicated on the transport document (see section 13).*

*If any of these gases are to be carried in a tank, passage would be forbidden through Dublin Port Tunnel, as the C and B classification would apply to the goods carried in a tank.*

## 12.5 Parking restriction 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 or secure factory premises.

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

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

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

As the parking provisions only apply to certain dangerous goods and in certain quantities you will need to consult the ADR (see special provisions listed in column 19 of Table A, Chapter 3.2) or seek clarification from a DGSA.

### For example:

- ▶ Parking restrictions apply to petrol (UN No. 1203) in packages (for example, drums or IBCs) of 10,000 kg or more, or tanks carrying 3,000 L or more.
- ▶ Parking restrictions do not apply to any quantity of diesel (UN No. 1202) or kerosene (UN No. 1223).

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.

# SECTION 13

## DOCUMENTATION

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

### 13.1 Document list

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

- ▶ The transport document detailing all dangerous goods being carried;
- ▶ When appropriate, the container or vehicle packing certificate;
- ▶ The instructions in writing;
- ▶ Means of identification, which include a photograph, for each member of the vehicle crew;
- ▶ Where required:
  - The annual vehicle certificate of approval;
  - The driver's training certificate;
  - A copy of any authorisations (for example, competent authority exemptions, approvals and Multilateral Agreements (MLAs)). Our website provides a list of all current authorisations (see [link](#)).

If you are unsure of the requirement for particular documentation, or the required detail, 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;
- (c) The hazard label model numbers given in Column (5) of Table A in ADR Chapter 3.2. 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" (for example, "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 (for example, 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 that in the case of intended application of "small load exemption" (see section 5), the total quantity and the calculated value of dangerous goods for each transport category must be indicated on the transport document (see examples in section 5). For dangerous goods in machinery or equipment specified in ADR, the quantity indicated must be the total quantity of dangerous goods contained therein in kg or L 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 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 on national exemptions);
- (i) A declaration as required by the terms of any special agreement;
- (j) (Reserved)
- (k) For carriage that includes passage through tunnels, the tunnel restriction code given in Column (15) of Table A of ADR Chapter 3.2, in capitals within parenthesis, or the mention (-) [see also section 12]. Examples of such permitted dangerous goods descriptions are:  
**"UN 1098 ALLYL ALCOHOL, 6.1 (3), I, (C/D)" or**  
**"UN 1098, ALLYL ALCOHOL, 6.1 (3), PG I, (C/D)"**

Table 11 provides an example of how the transport document can be laid out.

**Table 11****Transport document template**

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:** It is recommended as good practice to include under (e) above, where relevant, the packaging material, (for example, steel, aluminium, plastics, plywood, fibreboard).

## 13.3 Container or vehicle packing certificate

If the carriage of dangerous goods in a container/ vehicle precedes a voyage by sea, a container/ vehicle packing certificate conforming to Section 5.4.2 of the IMDG Code must be provided to the maritime carrier by those responsible for packing the container/vehicle. The information provided in the transport document and the container/ vehicle packing certificate may be incorporated into a single document. If these functions are incorporated into a single document, the inclusion in the transport document of a statement that the

loading of the container/vehicle has been carried out in accordance with the applicable mode regulations together with the identification of the person responsible for the container/vehicle packing certificate is sufficient. If the carriage of dangerous goods in a vehicle precedes a voyage by sea, a container/vehicle packing certificate conforming to 5.4.2 of the IMDG Code may also be provided with the transport document to the road carrier.

**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>

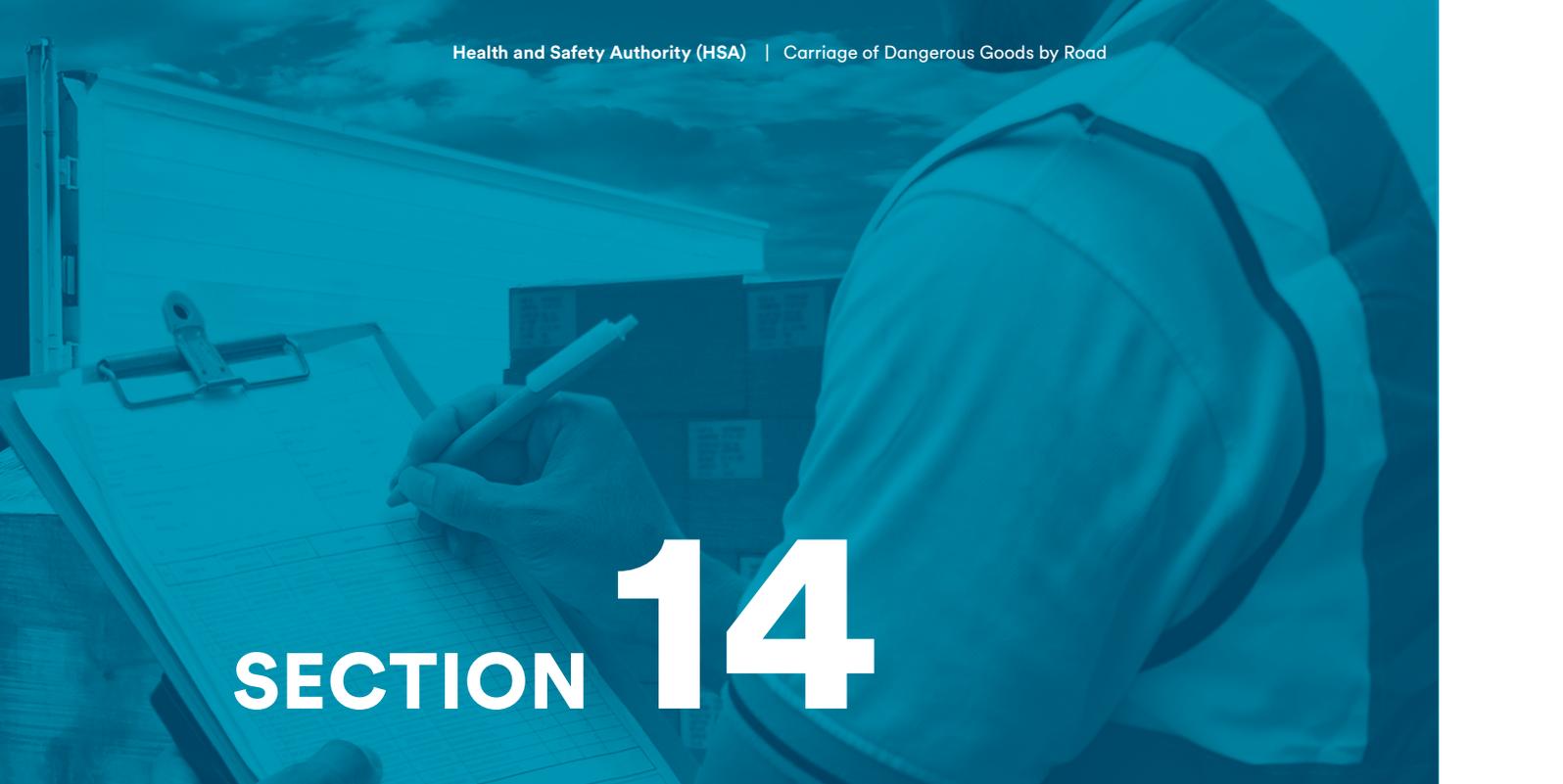
## 13.4 Instructions in writing

The carrier must supply a copy of the instructions in writing to the driver and vehicle crew in a language that is understood, and must be kept readily available in the cab of the vehicle.

The instructions set out emergency actions to be performed by the driver and the crew, dangerous goods hazard characteristics, additional guidance and a list of the general safety equipment and personal protective equipment to be carried on a vehicle (see section 11).

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

For a copy of the instructions, available in multiple languages, refer to the UNECE web site: [http://www.unece.org/trans/danger/publi/adr/adr\\_linguistic\\_e.html](http://www.unece.org/trans/danger/publi/adr/adr_linguistic_e.html)



# SECTION 14

## TRANSPORT EQUIPMENT INSPECTION AND CERTIFICATION

All transport equipment (see definition in section 1) should be subjected to regular general inspections (for example, visual inspection prior to filling, packing, loading; vehicle safety equipment checks).

Certain transport equipment requires **certification** and may also be subject to **periodic** inspection. All **inspection** and certification regimes must be carried out in accordance with ADR or national legislation 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 12 provides **some typical examples** of certification and mandatory inspection requirements.

**Table 12**

Certification and inspection of transport equipment

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 and MEGCs)	Initial type approval	Annual vehicle certificate of approval
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
Battery Vehicle/MEGC	Certificate of Conformity and Certificate of Initial Inspection	Inspection at least every 5 years
Elements of battery vehicle or MEGC (for example, cylinders)	Certificate of Conformity and Certificate of Initial Inspection	Inspection in accordance with the provisions of ADR 4.1.4.1, P200

Certain ADR vehicles (trucks and trailers) are required to undergo an annual technical inspection (ADR Test) in addition to the annual commercial vehicle roadworthiness test (CVRT) at approved Commercial Vehicle Test Centres.

The Road Safety Authority (RSA) is the competent authority 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, that is, travelling in Ireland and in other ADR contracting parties.

For more information on the vehicle annual ADR Test and the issuing of certificates of approval by the RSA, please refer to the RSA website: <https://www.rsa.ie/>.

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 (ADR 3.2.1, Table A, Columns 10 and 17). 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).

# SECTION 15

## SECURITY PROVISIONS

**Security in relation to the transport of dangerous goods means measures or precautions 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 have 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 must be properly secured, well lit and, where possible and appropriate, inaccessible to the general public.

The driver and the vehicle crew must carry a means of identification, including their photograph, during carriage of dangerous goods.

Security awareness training should be provided and periodically supplemented with refresher training (see section 6).

Employers must keep records of security training and make the records available, to the employee or the HSA, upon request.

### **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.

ADR 1.10.3 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.**

# SECTION 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 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.

Under general health and safety legislation, all employers have a responsibility to carry out a risk assessment and put procedures in place 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 with the following:

- ▶ Chemical spills;
- ▶ Fire or explosion;
- ▶ Road traffic incidents involving dangerous goods;
- ▶ Personal contamination;
- ▶ Environmental contamination;
- ▶ Security incidents;
- ▶ Loss of dangerous goods.

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

Under each foreseeable emergency situation for your business you should consider the following within your procedures:

- ▶ Outlining the emergency;
- ▶ Identifying employee(s) with responsibilities;
- ▶ Listing key actions to be taken (for example, notifying emergency services);
- ▶ Collecting information and taking appropriate action;
- ▶ Obtaining contact details for specialist contractors (for example, chemical spill or waste contractors, vehicle recovery);
- ▶ Accident investigation (where to be carried out, by whom and if applicable see requirement below for a formal report to be submitted to the HSA);
- ▶ Reviewing actions and planning for resumption of normal business.

## Incidents reportable to the HSA

For guidance on workplace accident reporting, see the [HSA website](#).

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.

Reporting is required if dangerous goods have been released or 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:

- ▶ Requires intensive medical treatment;
- ▶ Requires a stay in hospital of at least one day; or
- ▶ 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 or 50 L or more;
- (b) Of transport category 2 in quantities of 333 kg or 333 L or more; or
- (c) Of transport category 3 or 4 in quantities of 1,000 kg or 1,000 L or more.

The loss of product criterion also applies if there was an imminent risk of loss of product in the quantities above. 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 (for example, owing to distortion of tanks or containers, overturning of a tank or fire in the immediate vicinity).

For loss of product the following provisions also apply:

- ▶ If dangerous goods of **Class 6.2** (infectious substances) are involved, the obligation to report applies without quantity limitation;
- ▶ In occurrences involving **Class 7** (radioactive substances), the criteria for loss of product are:
  - (a) Any release of radioactive material from the packages;
  - (b) Exposure leading to a breach of the limits set out in the regulations for protection of workers and members of the public against 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. [Note that damage to any directly involved transport equipment (means of carriage) containing dangerous goods and to the modal infrastructure (for example, 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 or railways) for **at least three hours** owing to the danger posed by the dangerous goods.

If necessary, the HSA may request further relevant information.

# SECTION 17

## RECORD KEEPING

Records and documentation is part of business, but some must be kept by law. Table 13 gives examples of documents which must be retained by businesses involved with the carriage of dangerous goods.

**Table 13:**

### Retention period of records

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



# SECTION 18

## HAZARDOUS WASTE

As with all products and materials classified as hazardous for road transport, all waste streams must be assessed and if applicable, are subject to the same regulatory controls.

The general principles already covered in this guide such as classification, packing requirements, marking and labelling, all equally apply to hazardous waste materials. There are, however, certain specific requirements applicable to waste, some of which are highlighted in this section.

It is recommended you **consult with a DGSA and/or specialist** waste contractor when assessing your waste management needs.

In addition to ADR, the requirements of the TFS (Trans-Frontier Shipments) Regulations and Procedures are also applicable to the transport of waste nationally and internationally. For further information contact the National TFS Office at [www.dublincity.ie](http://www.dublincity.ie).

Examples of wastes commonly consigned, which are subject to ADR provisions (non-exhaustive list) include:

- ▶ Chemical process wastes;
- ▶ Used cleaning chemicals;
- ▶ Waste batteries (lead acid, lithium, mixed alkali and lithium);
- ▶ Flammable paint or ink residues;
- ▶ Waste containing asbestos;
- ▶ Used aerosols;
- ▶ Used solvent wipes;
- ▶ Unclean empty packaging (having contained dangerous goods);
- ▶ Clinical waste from human and animal care.

The following paragraphs provide an outline of some of the provisions concerning the carriage by road of hazardous waste.

## 18.1 Classification and “waste” prefix

Chemicals used in processes such as cleaning, may need to be re-classified as waste, as the original chemical(s) can be changed following use; for example, the original chemicals may be diluted or mixed with other substances, which means the original chemical classification may no longer be applicable.

For waste material there are several possibilities:

- ▶ It may have the same main hazard as the original substance,
- ▶ The main hazard may have changed,
- ▶ It may have gained a new secondary hazard or
- ▶ It may no longer be considered hazardous for transport.

Hence, there is a need to re-classify waste streams.

For hazardous waste, the proper shipping name used in the transport document is preceded by the word “WASTE” (see section 7).

### For example:

UN1993, WASTE FLAMMABLE LIQUID, N.O.S. (toluene and ethyl alcohol), 3, II, (D/E)

When classifying an unknown waste, it is permissible to use all available data to classify the substance without the need to carry out testing. The classification in this case would assume the ‘worst case’ scenario. The proper shipping name used in the transport document is supplemented with the phrase “WASTE IN ACCORDANCE WITH 2.1.3.5.5” after the tunnel code.

### For example:

“UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, II, (E), WASTE IN ACCORDANCE WITH 2.1.3.5.5”

## 18.2 Packaging, marking and labelling of waste

Generally, all waste substances are subject to the same packaging, marking and labelling requirements of other dangerous goods.

If using the original dangerous goods packaging to ship waste from site, you must re-classify as necessary, and apply the correct marking and labelling.

Where packaging is re-used it is important to:

- ▶ check suitability where a higher level of danger (higher packing group) has been identified, and
- ▶ ensure the inspection test date for the packaging has not expired, in particular for IBCs.

There are 2 scenarios possible:

1. Returned (to supplier) empty uncleaned packaging (other than class 7 packaging), the entry in the transport document may be reduced to:

“EMPTY PACKAGING” followed by the class(es), for example:

“EMPTY PACKAGING, 6.1 (3)”

The use of this entry removes the requirement for the UN number, proper shipping name, packing group and the number and description of the packages.

Where there are various empty packages having contained other classes of dangerous goods, excluding classes 1, 2, 6.2 and 7, the entry in the transport document may read:

“EMPTY PACKAGINGS, WITH RESIDUES OF [enter relevant class numbers]”.

2. For the consignment of **discarded** empty unclean packaging as a hazardous waste for the purposes of disposal, recycling or recovery of packaging material the following UN number may be used:

UN3509, PACKAGINGS, DISCARDED, EMPTY, UNCLEANED, Class 9.

The main exclusions for the use of UN 3509 are for classes 1, 2 and 7.

### For example:

The transport document for a group of mixed packagings, discarded empty, uncleaned, having contained goods of Class 3 and Class 6.1, will contain the following information:

“UN 3509, PACKAGINGS, DISCARDED, EMPTY, UNCLEANED (WITH RESIDUES OF 3, 6.1), 9”

Note that additional exclusions may apply. If in doubt please refer to your specialist waste contractor or DGSA.

## 18.3 Participant duties

As hazardous waste is fully regulated, all participants must comply with their respective roles (see section 3) when consigning, loading, carrying or unloading hazardous waste. As with other dangerous goods, there are various exemptions and special provisions which, may be applicable (see section 5 for exemptions, ADR special provisions are listed in ADR Chapter 3.3). If dealing with relatively small amounts of waste there will likely be a suitable exemption, which will reduce the legal obligation on the participant. Note that exemptions reduce the legal burden; they do not remove it.

The specialist waste industry in many instances will provide comprehensive services, such as classification, packing, labelling and carriage of hazardous waste for their customers. When assessing your business needs or competency concerning the removal of hazardous waste and if using a competent contractor, ensure to discuss with that contractor the specific duties each will take under ADR participant duties (see section 3). This detail must be captured in the **contract for carriage** where responsibilities are transferred from one party to another (see example and template in section 3).

## 18.4 Examples

### Example 1: Carriage of industrial, laboratory and maintenance waste

A company involved in food processing uses chemicals for cleaning process equipment and has a QC laboratory on site.

The wastes on site include cleaning chemical residues contained in original IBCs and drums (hazard classes 8 and 5.1), small quantities of laboratory waste chemicals, waste paints, aerosols and lithium batteries from the on-site maintenance workshop.

The company does not meet the criteria to require a formally appointed DGSA.

Taking each waste in turn:

#### (a) Cleaning chemicals

As the effluent from the cleaning process is dealt with on site, the only process waste is the empty uncleaned packagings, 20 L drums and IBCs.

If the containers are not returned to the supplier, they may be cleaned on site, rinsed and emptied to the effluent plant and all hazard labelling should be removed. The clean unmarked packagings can then be disposed of as non-hazardous waste and streamed for recycling.

Alternatively, if the containers are returned to the supplier, uncleaned, they must be treated as hazardous and ADR provisions will apply to the return journey.

The main requirements to be complied with are to keep the hazard labelling intact and ensure the containers are properly closed. For IBCs, this means the top and bottom closures and the drip cap are replaced. If the IBC is on site for a considerable period, the inspection date should be checked and any issues should be checked with the supplier who can provide further advice. A transport document must be provided to the carrier (see section 13) on the return journey.

The entry in the transport document concerning this type of waste, in addition to the consignor name and address, will be:

“EMPTY PACKAGINGS, WITH RESIDUES OF 8, 5.1”

### (b) Laboratory waste

The hazardous waste from the laboratory consists of small amounts chemical reagents, empty uncleaned packagings, unused chemicals and mixtures of chemical waste generated on site.

Microbiological slides and agar plates are autoclaved on site and are therefore not hazardous for transport.

Without the direct services of a DGSA, the company may engage a specialist waste contractor who can assess the waste streams and perform the general classification, packing, marking, labelling and drafting of transport documents on their behalf (under a **contract for carriage**, see template in section 3).

Alternatively, the company may also engage a DGSA on an ad-hoc basis to provide advice and consign the waste for disposal to a competent carrier/waste disposal company.

### (c) Maintenance waste

The waste from maintenance activities, such as aerosols, waste paint (flammable), batteries and other materials such as solvents should all follow the same procedure for disposal as used for the laboratory waste.

Note all waste streams must also comply the waste management legislation (refer to National TFS Office at [www.dublincity.ie](http://www.dublincity.ie)).

### Example 2: carriage of waste asbestos

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

A company involved in the removal of asbestos material and/or the transport of that material as waste, must classify the waste and 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 website](#).

### Example 3. Consignment of clinical and pharmacy wastes, and also exempt human or animal specimens and infectious substances by small healthcare providers, veterinary practices, pharmacies, nursing homes and other residential care facilities

Small healthcare providers (such as residential care facilities, medical centres, GPs, dental practices), veterinary practices, pharmacies, residential care facilities and nursing homes may need to consign:

- ▶ clinical waste (UN 3291),
- ▶ other hazardous wastes (for example, flammable liquids and toxic substances),
- ▶ exempt human specimens, or
- ▶ infectious substances (UN No. 3373).

Such practices are participants under the ADR.

For example, a high street pharmacy may have out of date drugs or medicines (which may be classified as hazardous waste) and may also produce clinical waste (UN 3291) such as used needles.

## Clinical and other hazardous wastes

In your role as a consignor of dangerous goods, the first step is to **classify** the substances. For example, identify the clinical/medical waste and ensure such wastes are **segregated** from other wastes such as flammable liquids and toxic substances. Those subject to ADR must be properly segregated. Old medicines should not be placed into the clinical waste container unless **biologically contaminated**. The correctly classified substances then need to be packaged, labelled and marked for transport. A transport document must be drawn up, and a competent carrier should be engaged to remove the wastes for appropriate disposal (refer to consignor and packer 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 under the advice and guidance of the carrier's DGSA. Otherwise, you should engage the services of a DGSA to advise you on what the legal requirements are for your particular business.

Where the carrier is acting for a pharmacy and has drawn up documentation, and provided packaging and advice on segregation and marking, 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 for carriage** and agreed by both parties, that is, the roles and responsibilities of each participant are agreed in writing (see template in example in section 3).

## Exempt human and animal specimens

Residential care facilities and nursing homes may consign "Exempt human specimens" which are human specimens for which there is minimal likelihood that pathogens are present. Similarly, veterinary practices may consign "Exempt animal specimens" which are animal specimens for which there is minimal likelihood that pathogens are present. Such specimens are not subject to ADR if carried in a packaging which will prevent any leakage and which is marked with the words "Exempt human specimen" or "Exempt animal specimen", and are subject to specific packaging conditions.

The packaging must meet the following conditions:

- (a) It consists of three components:
  - (i) a leak-proof primary receptacle;
  - (ii) a leak-proof secondary packaging; and
  - (iii) an outer packaging of adequate strength for its capacity, mass and intended use, and with at least one surface having minimum dimensions of 100 mm × 100 mm;
- (b) For liquids, absorbent material in sufficient quantity to absorb the entire contents is placed between the primary receptacle(s) and the secondary packaging so that, during carriage, any release or leak of a liquid substance will not reach the outer packaging;
- (c) When multiple fragile primary receptacles are placed in a single secondary packaging, they are either individually wrapped or separated to prevent contact between them.

An element of professional judgment is required to determine if a substance is an exempt human (or animal) specimen, and should be based on the known medical history, symptoms and individual circumstances of the source, human (or animal), and endemic local conditions.

Examples of exempt human specimens include the blood or urine tests to monitor cholesterol levels, blood glucose levels, hormone levels, or prostate specific antibodies (PSA); those required to monitor organ function such as heart, liver or kidney function for humans with non-infectious diseases.

## Infectious Substances Category B

If a specimen or sample does not meet the requirements of an exempt human or animal specimen, it may be classified as an infectious substance designated as UN No. 3373. Guidance regarding the packaging of infectious substances classified as UN No. 3373 is available on the HSA website: [Class 6.2 Infectious Substances](#).

## Example 4: carriage of clinical waste (Class 6.2) under ADR exemption 1.1.3.1(c)

Community-based nurses and doctors, dental practices, nursing homes and veterinary practices often generate clinical waste (UN 3291, clinical waste, unspecified, N.O.S., 6.2, II) when on call and transport such waste in their vehicles in UN approved plastic rigid packaging. Such carriage is **ancillary to the main activity** of the medical, dental or veterinary practice, or the staff of the nursing home, and can thus avail of ADR exemption 1.1.3.1(c) (see section 5).

Under ADR exemption 1.1.3.1(c), the quantities carried must be within the maximum quantities specified in the small load exemption. As UN 3291 belongs to transport category 2 (see Table 1 in section 5), a maximum quantity of 333 kg or 333 L may be carried per vehicle.

To avail of this exemption, measures must be taken to prevent any leakage of contents in normal conditions of carriage.



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