



**The Chartered
Institute of Logistics
and Transport**

Guidance for Providers of ADR Driver Training Courses

(Excluding class 1 and class 7 substances)

**Pursuant to national legislation on the carriage of
dangerous goods by road and implementing ADR**

**The Chartered Institute of Logistics & Transport,
1, Fitzwilliam Place, Dublin 2
Tel: (01) 676-3188, Fax: (01) 676-4099**

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Disclaimer: *The issue of a Letter of Approval to run an ADR driver training course to a training provider, following submissions made in accordance with this guide, does not grant or imply permission to infringe copyright in the material used or proposed to be used on such courses. Likewise, the Chartered Institute of Logistics & Transport (CILT) in placing demands in this guide for copies of material, proposed to be used on ADR driver training courses to be submitted by applicant training providers, does not grant or imply permission to infringe copyright in the material submitted in any application for approval.*

1. Introduction

- 1.1 This guidance supersedes previous published guidance for providers of driver training courses.
- 1.2 The purpose of this publication is to set out the standards required of training providers in the form of an approved practice guidance manual. The intention is that the document will serve as a reference guide to training providers, which will enable them to deliver the consistently high standard of training required.
- 1.3 The guidance will also be of use to applicants and potential applicants for approval. It provides assistance in the preparation of course notes and application submissions and outlines training facility requirements.
- 1.4 The ADR¹ and current regulations on the carriage of dangerous goods by road (available via the CILT web site) require drivers of vehicles used for the carriage of dangerous goods by road to be trained to enable them to understand and be aware of hazards arising in the carriage of dangerous goods. The training must give drivers basic information indispensable for minimising the likelihood of an incident taking place and, in such an event, to enable them to take measures that may prove necessary for their own safety and that of the public and the environment, to limit the effects of such an incident.
- 1.5 This guidance sets out the standards that need to be achieved to deliver training in accordance with the regulations, and to cover the syllabus.
- 1.6 Compliance with the standards set out in this guidance is a mandatory requirement for the approval and re-approval of training courses. **Failure by a Training Provider to comply with these standards will lead to the Chartered Institute of Logistics & Transport (CILT) reconsidering a training course approval and the Institute may, if it is considered that there are sufficient grounds, revoke an approval.**

2. Driver Certification

- 2.1 Directive 2008/68/EC as it relates to dangerous goods transport by road, requires that driver training, and other aspects relating to the carriage of dangerous goods by road, be harmonised within the Member States of the Community on the basis of the ADR Agreement. The text of ADR, chapter 8.2 (as amended on a two yearly cycle) will be used as the basis of harmonisation. Current national regulations² on the carriage of dangerous goods by road, implement the training and certification requirements for drivers.

¹ European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)

² European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations S.I. 349 of 2011 to 2017 (regulations subject to amendment refer to HSA web site)

- 2.2 Under these Regulations, the Health and Safety Authority (Competent Authority) appointed the CILT for the purposes of approving training courses and a system of examinations of drivers for dangerous goods, other than for explosive substances and articles and radioactive substances and articles. The Competent Authority for specialisation training courses relating to explosive substances and articles (ADR Class 1) is the Minister for Justice and Equality and for radioactive substances and articles (ADR Class 7) is the Environmental Protection Agency.
- 2.3 Driver candidates must undertake the relevant approved training course and successfully complete the approved examinations, before an ADR Driver Training Certificate can be issued.
- 2.4 A Driver Training Certificate is valid for 5 years from the date of issue. The validity of the certificate may be extended for periods of 5 years where within the period of 12 months which precede the expiry of the original certificate or any extension of it granted in accordance with the regulations, the holder can show to the satisfaction of the CILT that they have successfully completed the relevant refresher training course (which has been approved by the CILT) and passed the approved examination.
- 2.5 The Regulations require drivers of certain vehicles carrying dangerous goods to:
- Attend and complete an approved training course
 - Pass an approved examination.
 - Obtain a Driver Training Certificate, which will be valid for 5 years for national and international journeys throughout Europe/ADR Contracting Parties, confirming successful completion of appropriate training and examinations.
 - Attend a refresher training course and passing the relevant examination within a period of 12 months preceding the expiry of their current certificate.
 - Carry a current Driver Training Certificate with them at all times when driving a vehicle carrying dangerous goods, which is valid for the class and means of transport (packages and tanks) of dangerous goods being carried on the vehicle.
- 2.6 Driver Training Certificates that are valid for the carriage of dangerous goods of all ADR classes as indicated, in or on vehicles, by road throughout the European Union/ADR Contracting Parties, are issued by the CILT.

3. The Approval Process

- 3.1 In order to offer training leading to the issue of a Driver Training Certificate, training providers must hold a Letter of Approval issued by the HSA.

Note: Applications for approval of ADR Class 1 or Class 7 specialisation training courses must be made to the Minister for Justice and Equality or the Environmental Protection Agency, respectively.

- 3.2 Applications must be made in writing to;

The Education Services Officer, The Chartered Institute of Logistic & Transport, 1 Fitzwilliam Place, Dublin 2.

It must be indicated whether an application is for initial training (basic with or without tanks specialisation), or refresher training. **Approval will not be granted for refresher training to providers who are not approved for basic training.**

Applications must be accompanied by sufficient documentary evidence to show how the applicant intends to achieve the standards set out in this guidance. Applicants must be capable of providing all the training course modules as follows:

- General core requirement
- Packages core requirements
- Class specific modules
- Practical exercises
- Tanker specialisation

Applications for approval to offer refresher training must be submitted in addition to those for initial training, and are subject to the same minimum requirements.

3.3 Applications must be accompanied by the following:

3.3.1 The completed approval submission form (see Appendix C). Failure to provide the required information, will delay the approval process.

3.3.2 A full set of tutor notes (see Section 4 below), covering all of the modules. These notes must follow the same order as the syllabus. Refresher training courses must include all new technical, legal and substance related developments relevant at the time of application. Refresher course trainees must however be provided with the full course manual and hand-outs.

All training course materials must be submitted in electronic format readable on a Windows PC on USB memory stick, CD-ROM or DVD (for example, Word™ or Powerpoint™ format) and a hard copy of trainee manual.

3.3.3 A tabulated training programme, which shows the sequence in which the syllabus (Appendix A) is being covered, and how it complies with the minimum number of 45-minute teaching units as laid down in the syllabus. The tabulated programme must clearly show the arrangement of teaching units in each day of instruction, and the timing and duration of breaks. In addition, where applicable, the use of additional training materials such as videos should be indicated against the relevant section within the summary table (see example below).

For example:

Day	Time Period	Serial	Section	Units	Total Accumulated Units
1	9 - 9.45	E	VII	1	1
1	9.45 – 10.30	E	VII Fire fighting video (Video clip 1)	1	2

If a training provider wishes to run a programme that exceeds 8 teaching units on any one day, this must be clearly identified in the comments section at the time of application.

- 3.3.4 Details of how the mandatory practical exercises will be arranged and assessed and copies of the written material for the "desk-top" exercises/mock exams.
- 3.3.5 Notes on the methods to be employed in the management of the courses to ensure that the required standards are achieved and maintained consistently. Notes on the management of the courses must specifically include the methods whereby the course material and the tutors will be kept up to date with all new technical, legal and substance related developments.
- 3.3.6 Lists of the training aids, videos, audio-visual presentations, personal protective equipment, fire-fighting and first-aid equipment, and other aids to presentation to be used.

Copies of all videos and audio-visual presentations to be used must be submitted, preferably on a USB memory stick or in CD-ROM or DVD format and where applicable, link(s) to material accessed on the world wide web must be provided.
- 3.3.7 The names, qualifications and experience of all course tutors to be employed, showing how they comply with the requirements set out in section 8 of this manual.
- 3.3.8 Details of the facilities to be used for any practical demonstrations, and the safety arrangements applicable.
- 3.3.9 A copy of trainee 'handouts' (see Section 4 below), must be submitted in both hardcopy and electronic format readable on a Windows PC on a USB memory stick, CD-ROM or DVD (for example, Word™ or Powerpoint™ format).
- 3.3.10 Training Presentations
A copy of Training Presentations must be provided to CILT
- 3.3.11 The appropriate fee as specified in current legislation². Refer to Section 12.

3.4 The CILT may revoke, set conditions on, suspend or withdraw approval at any time for failure to comply with any of the conditions set out in the Approval.

- 3.5 Certificates of Approval are issued on the basis of the information provided, and all documents and information submitted in support of an application for approval are considered to be part of the conditions on which approval has been granted. No changes (apart from any updates necessary to keep up with changes in legislation, corrections, and so on) may be made by the training provider without prior approval in writing from the CILT. This condition applies in particular to the use of alternate tutors.
- 3.6 The Certificate of Approval shall specify the tutors who are approved to deliver specific elements of the training. No additional tutors may be used, and no tutor may be employed to deliver elements of the course outside of those specified in the Certificate of Approval or stated in the application on which approval was based, without prior approval in writing from the CILT.
- 3.7 Approval applies only to training conducted under the conditions laid down by the CILT and such training is subject to monitoring by the CILT and or Competent Authority. Training cannot be approved which is conducted on the territory of another Member State.

- 3.8 The training course presentation material, tutor notes and trainee handout materials will be assessed for accuracy as regards the technical, legal and substance related requirements of the syllabus.
- 3.9 Re-approval submissions must be received by the CILT, at least two months prior to the expiry of the existing Certificate of Approval or as directed by the CILT.

4. Tutor Course Notes and Trainee Hand-outs

- 4.1 The tutor course notes must be designed to meet a number of objectives:
 - 4.1.1 To ensure that the training given is exactly as required by the syllabus, with no omissions, and with the minimum of extraneous or unnecessary material (note, illustrative material and relevant examples is expected when delivering the course which is additional to that provided in the trainee handouts. It is this material which is to be documented).
 - 4.1.2 To be sufficiently detailed to ensure that there are no errors either of fact or in the technical content.
 - 4.1.3 To show the order in which material is to be covered, and to demonstrate a logical development of ideas.
 - 4.1.4 To indicate the level of training to be given, both in terms of total content and the amount of detail that the trainee is expected to understand.
 - 4.1.5 To show the methods to be used whether by discussion, demonstration, individual project, group exercise, or practical involvement.
 - 4.1.6 To indicate the point in the training at which aids, videos, exercises, demonstrations, projects and practical exercises are to be introduced.
 - 4.1.7 To show how all practical exercises are to be conducted and assessed, and to include the written materials and scenarios for all mandatory "desk top" exercises.
- 4.2 In order to achieve these objectives the course material should not be in the form of a complete narrative but should rather be in the form of notes that will enable a competent tutor to deliver the syllabus in a cogent, pro-active manner. Reproduction of the powerpoint slides alone will not meet the requirement for tutor course notes. Tutor notes recorded within the Powerpoint presenter mode will be acceptable.
- 4.3 The trainee handouts must provide a well illustrated summary of the course. Drivers are required to receive initial training, and then refresher training once every five years. The content of these courses is wide-ranging and detailed, and it should not be expected that a trainee would retain all of the information for a long period. Trainees therefore need notes to which they can refer after the training has been completed. Tutor course notes or a copy of PowerPoint slides will not serve this purpose.

The trainee handout/notes should be in the form of a durable bound manual which would be expected to last for five years. The manual should follow the sequence of the course and reflect the material being presented.

The manual should be well illustrated with for example;

- the labels and placards for the hazard classes
- other marks (for example, limited and excepted quantities)
- orange plates
- tunnel signage
- different types of packaging (for example, drum, jerrycan, IBC etc)
- load security and securing equipment
- tanks and fittings
- filling and discharging tanks
- personal protective equipment
- fire extinguishers
- on board equipment (for example, wheel chocks, spill kit)
- Vehicles with different orange plate configurations

A copy of the current version of the instructions in writing should be issued to every trainee.

- 4.4 Drivers should leave the course in possession of some means of being able to remind themselves of the salient points covered.
- 4.5 Course providers must include a modified version of the syllabus in the handouts. This will provide the trainee with a detailed list of the topics which should be covered by the course and aid participation on the course.

5. Course Programme

- 5.1 Training providers must have a programme which clearly shows the order in which the syllabus and course elements are covered, and the amount of time to be allocated to each element. The programme will be closely related to the course notes, which will show the degree of detail to be included in each part of the course.

The programme must allow for the minimum periods of time (teaching units) laid down in the syllabus for each element of the course. The sequence laid down in the syllabus for each main serial must be followed, but some variation is permitted in the arrangement of elements within those serials, as long as the provider is able to demonstrate a logical development of ideas.

The course programme, tutor notes and trainee manual may be streamlined provided a balance is achieved meeting the key provisions of each element, e.g. preparation of the course manual plus hand-outs (drivers manuals) with the syllabus and a suitably detailed training programme (3.3.3) may suffice if all additional examples or explanation used during the course is captured.

- 5.2. Other factors may also affect duration. A smaller class may need less time for practical sessions such as PPE demonstration, fire-extinguisher training and first aid training than a larger one, and in general more time is taken up by live demonstrations than by an equivalent video film.

The following durations are mandatory:

- 5.2.1 The programme must not place too great a strain on the endurance and powers of concentration of the trainee.
- The programme is to be divided into teaching units, each of 45 minutes duration.
 - Attendance at more than a total of 8 teaching units per day should be avoided but may be extended to 10 teaching units maximum.
 - There must be a break of at least 10 minutes morning and afternoon and 45 minutes once a day, for a meal.
- 5.3 The syllabus lays down the minimum time to be devoted to each element, and this must be adhered to. Programmes that exceed the minimum syllabus times are acceptable. Indeed it is expected that in the case of initial and refresher training most courses will exceed the minimum times due to pre-course reading and homework which may be set by course providers. Under no circumstances may courses be run which are either shorter than that required by the syllabus or which are at variance with the programme upon which a provider's approval has been based.

6. Training Facilities, Aids and Equipment

Training providers must either arrange, or ensure the arrangement, of all of the facilities for the effective delivery of training to standards set out in this guidance. In addition to buildings and training aids, this requirement also includes the provision of suitable slides, examples of orange-coloured plates, placards and hazard labels and personal protective equipment.

6.1 Class Rooms

6.1.1 Classrooms for the delivery of courses must:

- Be suitable for the purpose
- Of a size, shape and layout to permit the trainees to benefit from the training
- Have enough room for the tutor to set up notes and visual aids, and to arrange any exercises or demonstrations
- Be adequately heated and ventilated
- Have lighting that is suitable for all phases of instruction
- Have sufficient power points in suitable locations for all powered equipment
- Meet minimum statutory requirements in relation to fire safety and means of escape

Each trainee must be able to see all of the visual aids clearly, and to hear both the tutor and the sound track of any video. There must be no disturbance or distraction, such as movement outside major windows, persistent background noise or sudden and intrusive sounds from vehicles or aircraft. As a rule of thumb, there should be a space of 10 square metres for the tutor, and an additional 2 square metres per trainee, assuming that the room is rectangular, with one side no more than twice as long as the one adjacent to it.

6.1.2 The class room must also be suitably equipped, as follows:

- a. Computer, Audio-visual Projector and Screen

Ideally a video projector used in conjunction with a computer having video playback capability and suitable audio equipment should be used for video presentations.

- b. Slide Projector and Screen/flip chart/ white board etc.
May be used either instead of or in addition to the pc/projector. Tutor access may either be direct or by remote control, the image must be clearly visible to all trainees, and the projector/chart must be located so that it does not obscure the view of trainees.
- c. DVD or VCD Player and Television Monitor
May be used in addition to the above. As well as being reliable and producing good sound and picture quality, the television screen must be of a size and position that all trainees can both see and hear clearly. .

6.2 **Demonstrations**

If the course programme includes practical demonstrations, the class room or other facility must be equipped in such a way as to permit the demonstrations to be conducted without danger either to the tutor or the trainees. The syllabus does not require physical demonstrations of dangerous substances.

6.3 **Support Services**

The training facility must provide a safe and healthy working environment. Adequate arrangements must be made for ensuring safety in the event of fire and the provision of suitable welfare facilities.

6.4 **Fire training**

It is a course requirement that every trainee receives practical experience handling fire extinguishers and their correct use. This may be achieved by video instruction coupled with the physical handing and instruction on the use of portable fire extinguishers. Trainee knowledge shall be assessed by using a desk top exercise and by demonstrating (simulated) correct use.

It is no longer required by the syllabus to provide live fire-fighting training.

6.5 **Fire Equipment**

Training providers must have a range of portable fire extinguishers for demonstration purposes (handling, identifying different types, identifying when suitable for use, reading gauges where fitted etc.), where candidates can examine and handle extinguishers and simulate the correct approach to a fire in the cab or in the wheel/brake of a vehicle.

6.6 **Emergency /First Aid Training**

The conduct of the emergency/ first aid element of initial and refresher course practical exercises requires a minimum clear floor space, suitable for trainees to lie and kneel on, of at least 2 metres square (for the purposes of basic first aid practice, application of dressings etc.). This area must be positioned such that the whole class can see any demonstrations taking place. In addition there may be a resuscitation model in working order; with sterilisation facilities should course providers wish to supplement CPR video demonstration with a practical demonstration (due to time constraints no time has been allocated to practical CPR practice by all trainees).

A complete first-aid kit with a range of dressings/triangular bandage and eye wash bottle are also required for demonstration purposes.

6.7 **Personal Protective Equipment/ Vehicle Equipment**

Training Providers must have available, and be able to demonstrate the use of a full range of vehicle and personal protective equipment as described in the instructions in writing:

- Wheel chock
- Self-standing warning signs
- Eye wash
- High visibility clothing
- Torch
- A full range of gloves, including dipped PVC and insulated
- Goggles of an approved type
- Emergency escape mask
- Spill kit (shovel, drain seal, collecting container) and commercial spill kits

Other items of PPE may include:

- Respirator, with a number of different filters
- Full chemical (PVC) suit
- Chemical resistant footwear, including calf length boots
- Anti-static clothing

6.8 **Video Films and Audio-Visual Presentations**

- 6.8.1 Recommended material is listed at the end of the course syllabus. Course providers must use the material identified but may edit video and other material to isolate and present specific topics relevant to the subject being taught.
- 6.8.2 It is mandatory to have a video or audio-visual presentation on the main types of hazard and dangerous effects of materials in classes 2, 3, 4, 5, 6, 8 and suitable examples of class 9.
- 6.8.3 For fire-fighting it is a requirement that trainees should be able to identify the various types of fire extinguisher, their specific uses, and how to use them to put out fires. This may be achieved through the use of video or audio-visual presentation in addition to practical handling of fire extinguishers.
- 6.8.4 First-aid including CPR, the dangers of static electricity and Boiling Liquid Expanding Vapour Explosion (BLEVE) must be supported by the use of video / audio visual presentations.
- 6.8.5 For the tank and tank container module it is mandatory to have a video or audio-visual presentation showing the possible effects of load movement on a tanker. Similarly the effects of poor load security and good practice must be supported with video / audio visual presentations.
- 6.8.6 All videos must be in good condition, producing a clear and undistorted picture and an audible sound track. They must be examined regularly, and if they deteriorate in use, must be replaced.

6.9 Reference Material

6.9.1 In order to ensure accuracy, to be able to respond with authority to questions, and to ensure that instruction is current, all training providers must have reference material available to them.

6.9.2 Publications to be made available on the course must include:

1. European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure equipment) Regulations 2011. [S.I. No. 349 of 2011] as amended or replaced.
2. The current text of the ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

The following publications must be readily available for reference and are not required on the course but must be easily accessed, if required:

1. The current text of the ICAO* Technical Instructions
2. The current text of the IMDG** Code
3. A copy of this Guidance Manual

** "ICAO Technical Instructions" means the Technical Instructions for the Safe Transport of Dangerous Goods by Air, which complement Annex 18 to the Chicago Convention on International Civil Aviation (Chicago 1944), published by the International Civil Aviation Organization (ICAO) in Montreal;*

*** "IMDG Code" means the International Maritime Dangerous Goods Code, for the implementation of Chapter VII, Part A, of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), published by the International Maritime Organization (IMO), London;*

The above list will become out-of-date, but providers are required to hold up-to-date copies of the respective publications as and when they are published.

6.10 Slides

6.10.1 Slides have the advantage of flexibility (in terms of the order of use, and back reference), capacity for items to be revealed at one time, and for overlays. It is also easier for the tutor to use for reference as training notes.

6.11 Labels and Placards

6.11.1 The marking of vehicles carrying dangerous goods is a key part of a driver's duties, and it is unlikely that trainees will have a sufficient understanding without having seen both illustrations of plates, placards, labels and marks, and examples of the actual items.

6.11.2 Training providers must be able to show trainees what the hazard diamonds in current use look like, and must also have full size examples of:

- Each hazard diamond (placards and labels)
- IMDG type placards with and without the class number, and with and without the UN number
- ADR numbered plates
- ADR blank orange plate
- Additional marks used on packages, tanks and vehicles

There must also be a good visual means of demonstrating the correct positioning of labels etc., on containers and vehicles.

6.11.3 It is also essential to have examples of the ADR Instructions-in-Writing, and other forms of information in writing – such as Waste Transfer Forms/Transfronteir Shipment forms, Dangerous Goods Note, container packing certificate and a sample completed Transport Document.

6.12 Examples

Good teaching practice dictates that in the case of the operation of technical equipment there are many items for which it is better to demonstrate "live" than to show pictures or to merely describe. Training providers should arrange the supply of examples of different kinds of packaging, with the appropriate labels and UN approval.

7. Course Delivery

7.1 Courses run under this scheme impose on the training provider a responsibility to ensure that drivers trained by them understand, and can act on:

- The nature of dangers to which particular dangerous goods may give rise, and
- The action to be taken in an emergency concerning them.

7.2 Training must be directed at covering the entire syllabus in such a way that the essential elements are not only understood, but also, and more important, are made memorable by engaging the trainees in discussion and providing clear visual illustrations, real examples and periodic assessment of learning.

7.3 Individual tutors will have their own ways of doing this, and there should be flexibility within any regime for tutors to express their own personalities.

7.4 It is never acceptable for training to be given by means of reading from a prepared script.

7.5 The progress of trainees and their absorption of the course information must be confirmed frequently. Class questions and short written tests shall be used (See Section 7.7. below). The time allocated to these tests must be additional to the time

allocated to teaching units and practical instruction. They may be of limited value due to the varying backgrounds of the trainees.

- 7.6 Multiple choice questions may be used for practice, revision or confirmation of progress during an approved course. These should not be the only way of checking progress. Other written questions and answers, written scenarios and oral questioning must play a part in determining the level of learning throughout the course. There must not be an overemphasis on exam type questions.
- 7.7 Training must always be aimed at covering the whole of the set syllabus, and must follow the notes on which the provider's approval has been based.

**Training is never to be aimed at the content of the examinations alone.
Coaching directed at a particular examination paper is totally prohibited.**

- 7.8 Within the course there is a requirement for a number of participatory sessions. In practical exercises trainees must:
- a. Understand the technique to perform mouth-to-mouth ventilation (not used in "citizen CPR" video, see tutor reference material listed following the course syllabus), external chest compression and putting a patient into the recovery position and basic first aid,
 - b. Understand how to put out a fire using an appropriate fire extinguisher, selection and use of PPE, and
 - c. Be able to use their training and information available to them to decide the correct course of action for the driver in emergency situations.
- 7.10 Training providers must sign a written declaration worded as follows:

"I certify that the above mentioned candidate has completed the practical exercises covering the use of PPE, emergency first-aid, fire-fighting and the emergency action in the case of an accident/incident, and by means of an assessment by a qualified/experienced tutor, has demonstrated the ability to match the standards set out in the syllabus."

Tutors have, therefore, the responsibility not only to train candidates to the standards set out in the syllabus, but also to assess the understanding of the candidate to perform tasks to those standards. In so doing, the aim is not to "fail" the candidate, but to ensure that the instruction has been well enough conducted to achieve the required standards.

It is expected that if a candidate does not at first achieve the required standard, the tutor will continue to train the candidate until successful. There may, however, be circumstances where the best efforts of the tutor do not prevail, and in that case the provider will not be able to sign the above declaration.

8. Tutors

- 8.1 Training courses may only be taught using the tutor(s) who have been specifically named in the training course approval granted to a training provider by the CILT. It is the responsibility of the training provider to select, and nominate for approval, tutors who have the necessary qualifications and experience to conduct training in accordance with the courses for which they have approval.
- 8.2 It follows from various requirements set out in this manual, and in particular from the way in which the course must be delivered, and its content, that the tutors need particular attributes.
- 8.3 The approval criteria set out in this section will be applied and full details of the way in which the criteria set down in this section are met by proposed tutors, must be submitted as part of the application for course approval.
- 8.4 Tutors need to demonstrate their ability in two distinct areas.
- the ability to instruct,
 - having a detailed technical knowledge and of all aspects of operating vehicles carrying dangerous goods.
- 8.5 Accordingly, a tutor must satisfy **each** of the following requirements (a, b and c):
- a. Either hold a Driver Training Certificate
- or, hold a qualification that in the opinion of the CILT is of an equivalent or superior standard.
- b. Either hold a Certificate in Training and Continuing Education awarded by the National University of Ireland
- or a qualification that in the opinion of the is of an equivalent or superior standard,
- or, provide evidence of experience of preparing and running courses for adults, on job related topics, in a formal classroom environment.
- and, for the first-aid and use of portable fire extinguishers elements, hold a recognised qualification or have experience as a trainer or tutor for those topics.
- c. Either show that they have operational experience of the transport of dangerous goods, in a managerial/supervisory capacity or as experienced drivers/operatives,
- or, provide evidence in the form of a qualification and experience relevant to modules of training to be covered, which in the opinion of the CILT is of an equivalent or superior standard, e.g. a valid DGSA qualification (all classes/road mode), vehicle driving experience and experience with dangerous goods such as classification of dangerous goods, loading/unloading operations or road tanker operations. Such experiences may be as an observer or under supervision.
- 8.6 Trainees in the carriage of dangerous goods may range from complete novices, to drivers and their managers with many years of practical experience. Tutors must have the patience and attention to detail to enable them to give effective instruction to the

former, whilst maintaining credibility with the latter. For this reason approvals will specify the modules for which a tutor has been approved to deliver and decisions will be based on their qualifications and experience.

Tutors must also have the necessary experience to be able to make assessments during the practical exercises that are part of the course.

- 8.7 The syllabus requires instruction and assessment on first-aid and fire fighting. In order to conduct the fire-extinguisher training the training provider must show that the tutor has either received formal training from a fire service, or has been given adequate formal training from another competent source, or has substantial experience of having trained adults in the theoretical and practical aspects of fire-fighting.
- 8.8 To teach and assess first-aid a tutor must have a valid occupational first aid qualification.
- 8.9 Training providers that do not have a suitably qualified tutor for fire-fighting or first-aid may engage the services of a sub-contractor; qualifying organisations or individuals. All such organisations or individuals must act on behalf of the training provider and conduct training under the provider's control.

The training provider must ensure that the sub-contractor follows the syllabus, conducts the necessary assessments, and is prepared to certify the achievement of the required standards. The "sub-contract" arrangements must be notified with the initial application for approval and each time that renewal is sought. They are then part of the conditions under which approval is granted, and may only be changed with the written approval of the CILT.

9. Administration Arrangements

Training providers have a responsibility to ensure that training courses are well and properly administrated, and that there is both control and back up.

9.1 Quality Control

Training providers must ensure that all of the standards on which approval has been granted are applied and maintained. This quality control falls into a number of areas:

- a. The quality of instruction must be checked frequently to ensure that it is maintained at a level that will ensure continued approval. Checks should be documented. The provider should be prepared to coach and counsel tutors if standards are not satisfactory, and to arrange additional training if necessary.
- b. Course material must always be of good quality, and must be updated to take account of factual changes in regulations as well as being adapted to technical progress. The training provider must ensure that they regularly review appropriate information sources that will enable them to know when legislation and other matters affecting the course change. The amendments to course notes, handouts and slides must be made, as necessary. If a number of tutors are employed, they must be informed of any changes, by means of regular briefing sessions
- c. Other aspects of course delivery must also be controlled. This includes using the course notes and visual aids in the manner intended, delivering the course in the proper style, and keeping to the approved programme, both in terms of overall timings and individual modules.

- d. The approved training provider must have control over course bookings, so that approved course numbers are not exceeded.
- e. All of the facilities, including class rooms and training equipment, must be regularly checked, and maintained in good order at all times.
- f. If sub-contract arrangements are used for fire or first-aid training, quality of delivery must be maintained by means of appropriate monitoring, and corrected if standards fall.

9.2 Notifications

- 9.2.1 As a condition of approval for training courses, training providers must notify the CILT of the intention to run a course. Notification must be forwarded to reach the CILT at least 14 days in advance of the course commencing and should not be submitted more than six weeks in advance. If a course is agreed within the 14 day time frame, the course should be notified as soon as possible. All course cancellations **MUST** be notified, even if at short notice.
- 9.2.2 Notification of intention to offer a training course must be submitted on the appropriate "Notification of Courses" forms (see appendix B). Copies may be obtained from the CILT (for basic and tanker specialisation courses use Form CDGR I, and for refresher basic and tanker courses use Form CDGR II)
- 9.2.3 The maximum permitted class size is 16 trainees. The number of trainees per course must be notified to the CILT on the appropriate form. Course trainee numbers may not exceed 16 candidates.
- 9.2.4 No changes regarding training course tutors or significant changes to course material, other than updates, may be made before approval in writing has been obtained from the CILT. Application for changes to course tutors and materials must be accompanied with the appropriate fee.
- 9.2.5 Training providers shall notify the CILT in writing of any third party agreement, made between a training provider and another organisation who is seeking to use the services of the approved training provider to offer ADR driver training under the organisations name.

9.3. Audit

An officer of the CILT who may be accompanied by an officer from the HSA, shall be allowed unrestricted access to attend or visit each course for the purpose of assessment and monitoring of the course. Officers shall be provided with suitable accommodation (desk and chair) for the duration of the audit.

The CILT Officer shall issue a report with recommendations as appropriate. Reports will be issued to the course provider who will be obliged to respond within one month with a plan of remedial action and time lines for implementation. The plan must meet with the approval of the auditing officer.

9.4. Records

9.4.1 The following records shall be maintained:

- (a) In respect of each candidate for an approved course, a record of the candidate's name, address and the dates, times and venues of each course attended.
- (b) In respect of each time an approved course is run, a record of dates, times and venue, and also of the tutors who taught or supervised any part of the course.

9.4.2 All such records must be signed by the training provider and must be retained for a period of five years. The records must be available for inspection, at all reasonable times, by an officer of the CILT or HSA.

10. Examinations

Examinations are administered by CILT

10.1 Examinations will be held at a time and venue as arranged by the CILT. (Notification of examination centre locations and dates are published on CILT website for each calendar year).

10.2 Examinations will be in the form as directed by the CILT.

10.3 Supervision of examinations will be carried out by the CILT.

10.3.1 The examination papers are and remain the property of the HSA. All examination papers must be returned at the end of each examination, and may not be copied.

10.3.2 Candidates will be considered for examination on receipt of an application form and fee by the CILT.

10.3.3 Each candidate will be notified by post of the time, date and venue of the examination.

10.3.4 Candidates who complete the initial basic training course and pass the relevant examination will be entitled to a Driver Training Certificate for all ADR classes except Class 1 and Class 7 for the carriage of packaged dangerous goods. Such candidates are then eligible to undertake an initial tanker specialisation course and on passing the examination will be entitled to a Driver Training Certificate for tanks. However, the above courses may be taken as part of a comprehensive course, that is an initial basic course and initial tanker specialisation course followed by the appropriate examinations.

First Time Candidates

10.3.5 First time candidates who have completed an approved training course must sit the relevant examination within a 12-month period of the date of completing the training course otherwise the training course must be repeated.

10.3.6 An initial candidate who fails an examination may not re-sit the examination before a period of 7 days has elapsed and must re-sit the examination within a 12-month period of the date of completing the relevant training course. The candidate may re-sit the exam repeatedly within this time frame.

10.3.7 Candidates failing to pass the relevant exam within this time frame must undergo initial training before they may attempt the relevant examination. This cycle may be repeated.

Existing Candidates

10.3.8 All candidates must attend refresher basic or refresher basic /refresher tanks training.

10.3.9 Candidates failing one or both examinations may re-sit the exam repeatedly for a period 6 months after the expiry date of the existing certificate.

10.3.10 If the candidate does not pass an examination within this period they must re-sit the relevant **refresher** training course before re-sitting the failed exam. The resitting of the examination may continue for a further 6 months, thereafter the candidate must repeat the **initial** training course.

Over 12 months from the initial training the candidate starts the cycle again.
(Candidates may continue to sit the exam while the current certificate has expired but may not drive vehicles carrying dangerous goods).

10.3.11 Candidates, who pass a refresher tank exam only, may hold this result on credit for 12 months from the expiry date of the current certificate. As and when updating the certificate with the tank examination, subsequent to passing the refresher basic examination, the basic certificate expiry date will not be affected.

11. Existing Driver Training Certificates

11.1 Revalidation of existing certificates.

11.1.2 Certificates of Driver Training first granted under the European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011 to 2017, may be re-validated by attending refresher training and passing the appropriate examination(s) within the 12-month period before their period of validity has expired.

11.1.3 Certificates of Driver Training first granted under any subsequent regulations, may be re-validated by attending refresher training and passing the appropriate examination(s) in accordance with those regulations.

11.2 Conditions for revalidation of existing certificates

11.2.1 Holders of a Driver Training Certificate may re-validate the certificate only to the extent of matters covered by the original certificate.

11.2.2 Any extension of the certificate beyond the matters covered by the original certificate will require attending an initial basic course and or an initial tanker specialisation course and passing the appropriate examination(s).

12. Fees

12.1 Approval of Training Courses

12.2.1 Fees for the approval and re-approval of training courses are set out in current carriage of dangerous goods by road regulations (refer to the CILT web site) and are payable to CILT.

12.1.1 A separate fee must be submitted with each application to the CILT for approval of each of the following:

- (a) Basic training
- (b) Tanks specialisation training
- (c) Refresher basic training
- (d) Refresher tanks specialisation training

12.1.2 An annual review fee is payable by each training provider to cover continual inspection and validation of training courses.

12.1.3 A fee is also payable by each training provider to cover any application for approval of an additional or replacement trainer.

12.1.4 Fees in respect of any application are non-refundable.

12.3 Driver Examinations

12.3.1 The fees payable by examination candidates are set out in current carriage of dangerous goods by road regulations.

12.3.2 With each application for a driver examination, a fee, as specified in the regulations, must be submitted to the CILT.

12.2.3 Fees in respect of any application are non-refundable. This also includes fees paid by candidates who have applied for an examination and do not attend the arranged examination.

Appendix A

European Communities (Carriage of Dangerous Goods
by Road and Use of Transportable Pressure Equipment)
Regulations 2011 to 2017

Syllabus for Driver Training; Basic, Tanks Specialisation and Refresher Courses

(Excluding class 1 and class 7)

*The Chartered Institute of Logistics & Transport
1 Fitzwilliam Place
Dublin 2*

This Appendix consists of:

- (a) Syllabus for the basic/refresher basic training course requirements.
- (b) Syllabus for the tanker/refresher tanker specialisation course requirements.

Syllabus for ADR Driver Training: Basic, Tanks Specialisation, Refresher Basic and Refresher Tanks Courses

All teaching units are based on 45 minute sessions. Indicated teaching units are minimum requirements, however training providers may extend the time provided at their discretion. Training material may be presented in a sequence determined by the trainer unless otherwise indicated.

Training Course Duration – Minimum Teaching Units

It is intended that the initial basic course will have a **minimum of 21 teaching units** spread over 3 days.

The refresher basic course is a **minimum of 10 teaching units** but may be carried out in 1 day, otherwise spread over 1.5 days.

The initial tanker specialisation course is a **minimum of 14 teaching units** spread over 2 days.

The refresher tanker specialisation course is a **minimum of 6 teaching units** to be carried out in 1 day.

Material covered in square brackets [...] is intended to provide additional information to tutors, it may therefore form part of the tutors course notes but is not intended for the driver manual.

Summary of Basic Training Course and Minimum Teaching Units

Serial	Outline Instructions for Training Providers	Description	Teaching Units Initial Basic	Teaching Units Refresher Basic
A		A. General requirements governing the carriage of dangerous goods	2	0.5
B		B. Main types of hazard and documents to be carried	1.5	0.5
C		C. Information on environmental protection in the control of the transfer of wastes	0.5	0.25
D		D. Preventive and safety measures appropriate to the types of hazard	5.5	2.25
E		E. What to do after an accident	5	2.5
F		F. Marking, labelling, placarding and orange coloured plate marking, packaging and exemptions	2	1
G		G. What a driver should and should not do during the carriage of dangerous goods/ precautions to be taken during loading and unloading	1.0	0.5
H		H. Purpose and method of operation of technical equipment on vehicles	0.5	0.25
I		I. Information on multimodal operations	0.5	0.25
J		J. Handling and stowage of packages, prohibition on mixed loading	1.5	1
K		K. K. Traffic restrictions in tunnels	0.5	0.5
L		L. Security provisions	0.5	0.5
		TOTAL	21	10

Basic Training Course

Serial	Outline Instructions for Training Providers	Description	Teaching Units Basic	Teaching Units Refresher
A	By means of classroom instruction, using slides (PowerPoint©), class participation, illustrative examples and case studies. Confirmation of understanding by means of questions requiring oral and written answers.	<p>A. General requirements governing the carriage of dangerous goods.</p> <p>Outline -</p> <p>i. The regulations under which training is required, ADR and Irish legislation. Provide an overview of ADR and the relationship with modal regulations RID, IMDG Code, ICAO Technical Instructions and ADN.</p> <p>ii. How a Driver ADR Training Certificate is issued.</p> <p>Mandatory attendance at approved course - applicable hazard classes (2 to 6, 8 and 9), examination, certificate, period of validity, refresher training, and mention of specialisation courses for classes 1 and 7.</p> <p>iii. Duties of employer and employees under Safety, Health and Welfare at Work Act 2005 –</p> <p>Duties of Employers Part 1 of the Act,</p> <ul style="list-style-type: none"> - provision of a safety statement and risk assessment which should identify the hazards faced by drivers and the measures to counter these hazards. - Provision of training, information, supervision and PPE as may be necessary. To ensure work place (vehicle) and work equipment are safe and maintained. <p>Duties of employees – Section 13 of the 2005 Act</p> <ul style="list-style-type: none"> - take reasonable care to protect his or her safety, health and welfare and the safety, health and welfare of any other person who may be affected by the employee's acts or omissions at work. - he or she is not under the influence of an intoxicant - attend such training and, as appropriate, undergo such assessment as may reasonably be required by his or her employer - make correct use of any article or substance provided for use by the employee at work or for the protection of his or her safety, health and welfare at work, including protective clothing or equipment, - report unsafe work practices or work equipment <p>iv. Road Traffic Acts – requirement to</p>	2.5	0.5

		<p>provide and maintain a safe vehicle, driver licensing, load security.</p> <p>v. Civil Liability duty of care, difference between civil and criminal liability, concept of negligence and need for adequate insurance.</p> <p>vi. Duties of the driver /vehicle crew under ADR To transport dangerous goods safely through knowledge, skill and careful driving and the legal duty of care. Requirement to carry out daily vehicle checks to ensure vehicle is road worthy and that all equipment and documentation is present and accurate.</p> <p>vii. Participants in the transport of dangerous goods and their legal responsibilities – in particular; Consignor, Carrier, Filler, Packer, Loader, Unloader, Consignee and DGSA. Note, roles that may be performed by the driver typically include Filler, Packer, Loader and Unloader.</p> <p>viii. Over view of National Provisions – Carriage of Dangerous Goods Regulations</p> <p>viii. Overview of commonly used ADR Exemptions in particular (covered in detail in F);</p> <ul style="list-style-type: none"> - Quantity per transport unit (ADR 1.1.3.6) - Limited and Excepted quantities - Empty unclean packaging - Carriage ancillary to main activity 		
B	<p>Placards and labels of each of the hazard classes and sub divisions. Examples of transport documents. Copy of current version of IIW.</p> <p>By means of classroom instruction, using slides (PowerPoint©), class participation, illustrative examples and case studies. Confirmation of understanding by means of questions requiring oral and written answers.</p>	<p>B. Main types of hazard and documents to be carried.</p> <p>i. Outline the hazard classes 1 to 9 (covered in detail in D)</p> <ul style="list-style-type: none"> - Provide details of the subdivisions and sub classes - Introduce secondary (additional) hazards - UN Numbers - Packing Groups – note, not all dangerous goods have been assigned Packing Groups (for example, gases) - Some substances are also deemed to be hazardous to the environment in addition to the primary hazard - Some substances are prohibited from transport by road <p>ii. Documents</p> <ul style="list-style-type: none"> - Transport document - generated by consignor and provided to driver by consignor/carrier. - Driver duty to read and understand transport documents, duty to produce documents when required (kept readily available) and note instances when documents may not be required under ADR for example, limited quantities transport. 	1.0	0.5

		<ul style="list-style-type: none"> - Transport document content - provide examples of how information must be presented in the document. - Instructions in writing (IIW) - (Issue a copy of the current version of the IIW to each participant), highlight purpose and importance to driver/crew. - Vehicle/container packing certificates (prior to sea voyage and provided by packer/loader). - Multimodal dangerous goods form (Ref serial I). - Mention multilateral agreements /Competent Authority (CA) Authorisations insofar as some may be required during carriage. 		
C	<p>Completed examples of WTF and TFS showing transport information</p> <p>By means of classroom instruction, using slides (PowerPoint©), class participation, illustrative examples and case studies.</p> <p>Confirmation of understanding by means of questions requiring oral and written answers.</p>	<p>C. Information on environmental protection in the control of the transfer of wastes, outline</p> <ul style="list-style-type: none"> - Legislative background – separate from Transport of Dangerous goods regulations-traceability. - Documents which accompany hazardous waste - WTF, TFS and ADR Transport document (for the purposes of national transport - WTF may incorporate ADR transport document) - Waste collection permits, expiry - Waste facility permits - Mention European Waste Catalogue (EWC) codes replaced from 2015 by classification of hazardous, list of waste (LoW) numbers and main sources of waste for example, clinical/chemical/asbestos. 	0.5	0.25
D	<p>By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.</p> <p>Videos showing the hazards of each of the classes should be shown.</p> <p>Videos showing effects of static electricity and BLEVE.</p> <p>Confirmation of understanding by means of questions requiring oral and written</p>	<p>D. Preventive and Safety Measures appropriate to the types of hazard</p> <p><i>[ADR has identified 13 classes of dangerous goods. For the purposes of this training course the classification system may be simplified/referred to as 9 hazard classes, some of which are sub-divided (classes 4, 5 and 6). Candidates must recognise on sight each hazard class label, what each hazard class label means, this includes an awareness of class 1 and class 7 hazard labels. Note: candidates are not expected to memorise UN numbers for substances or articles]</i></p> <p>A good understanding of :</p> <p>i. General Characteristics of dangerous substances in classes 2, 3, 4, 5 ,6, 8 and 9</p> <ul style="list-style-type: none"> - Introduce hazard classes including mention of classes 1 and 7 (separate specialisation training courses covering class 1 and class 7). - Stress that a substance is assigned to one primary class. 	5.5	2.25

<p>answers. In particular written exercises requiring each participant to recognise the labels/placards associated with each class and sub class and the hazard associated with each class.</p>		<ul style="list-style-type: none"> - Dangerous substances may have additional/subsidiary hazards in addition to their primary hazard (such as, toxicity, flammability, explosion, corrosivity, oxidising and asphyxiation). - Packing groups (PG) – PG I, II and III (high, medium and low danger respectively). Note: Some substances are not assigned PGs for example, gases. - Many substances from different classes are also considered to be environmentally hazardous (marine pollutants) (provide examples, such as, fuels) - Sources of information about individual substances, their dangers, and the precautions to be exercised when transporting them. The most immediate source of information for drivers is the Instructions in Writing and pages 2, 3 and the top of page 4 should be introduced. - Need for containment and the prevention of escape of product through correct packaging and careful handling. Avoidance of contamination of the environment. - Need for some substances to be segregated from each other – general overview. - Fire triangle and its relevance to all flammable and combustible substances. - Need to avoid overheating substances or causing them to ignite, including the avoidance of sources of ignition for example, naked flames or static discharge. - Awareness of some common chemical properties for example, petroleum fuels float on water, they do not mix, some may be easily ignited (flammable liquids and gasses), vapours and gases may create a non-breathable atmosphere, a smell from many chemicals (not all) indicate their presence, chemical reactions may generate heat/pressure, how to relate these properties to the work place particularly during loading, carriage and unloading (illustrate with workplace incidents). <p>ii. Characteristics of UN Class 2 and the three divisions (class labels).</p> <ul style="list-style-type: none"> - Define the class – gases at standard temperature and pressure - 2.1 flammable gases - 2.2 non-flammable non toxic - 2.3 toxic gases - Show and explain danger labels, marking and placards. - Gases need to be compressed, liquefied, dissolved under pressure, deeply 		
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		<p>refrigerated or a combination of these for economic transport.</p> <ul style="list-style-type: none"> - Class 2 includes Aerosols (UN1950) and chemicals under pressure. - Dangers and the precautions to be exercised when transporting gases such as high pressure / rapid expansion should a leak occur. Some gases are heavier than air. Handle cylinders with care. - Hazardous properties including toxicity, flammability, corrosivity, oxidising and asphyxiant (reduces or displaces the normal level oxygen in air) . - The effects of low/very low temperature on living tissue and other materials <i>[Cryogenic]</i>. - Correct handling, storage and transport of cylinders and avoidance of overheating, note that pressure increases as temperature rises and can eventually lead to a BLEVE (Boiling Liquid Expanding Vapour Explosion). Note also BLEVEs are not restricted to class 2 but are rare events. - Provide examples of common gases and UN numbers (such as, LPG, oxygen, acetylene) . <p>iii. Characteristics of UN Class 3 flammable liquids.</p> <ul style="list-style-type: none"> - Define the class – liquids with a flash point at or below 60°C. Note UN1202 flash point between 60 and 100°C is an exception to the rule. - Show and explain danger label, marking and placards. - Dangers and precautions to be exercised when transporting flammable liquids for example, flammable atmospheres and avoidance of ignition sources. - Vapours above the liquid burn rather than the liquid themselves. - Vapours are usually colourless and heavier than air and in confined spaces increasing the risk of a non-breathable atmosphere [asphyxiation] and/or fire/explosion. Note can migrate away from spill area and settle in low points. - Other possible subsidiary dangers including toxicity and corrosivity. - Outline the relative danger presented by low flashpoint substances, for example, petrol compared to diesel, outlining what flash point means and the relationship with PGs. - Substances which are carried above their flashpoint (UN3256) are classified as flammable liquids including molten solids. - Combination of vapour, air and ignition source can create fire hazards (fire triangle). 		
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- The need for containment, prevention of escape and exposure (preventing harm to persons or damage to property/environment)
- Types of ignition sources, in particular sparks, naked flames, hot surfaces, electrical equipment, smoking (including e-cigarettes) and static electricity.
- Provide common examples of class 3 substances and UN numbers (for example, petrol, diesel, kerosene and ethanol and many industrial solvents).

iv. Characteristics of UN Class 4 and the three sub- classes.

- Define the classes
- Class 4.1 Flammable solids, self-reactive substances, polymerising substances and solid desensitised explosives

[Class 4.1 contains four types of dangerous goods:

- I. Straightforward flammable solids such as firelighters (UN 2623) aluminium powder coated (UN1309)*
- II. Desensitized solid explosives and in general what this means - if the substance is desensitized in the prescribed way, it may be transferred from Class 1 to Class 4.1*
- III. Self-reactive substances and what they can do if they reach their self-accelerating decomposition temperature (SADT) and that many of these are liquids placed in Class 4.1*
- IV. Dangerous polymerizers and what they can do if the inhibitor fails and/or they reach their self-accelerating polymerising temperature (SAPT)]*

- Class 4.2 – Substances (solids and liquids) liable to spontaneous combustion.
- These are dangerous goods that will ignite when exposed to air

- Class 4.3 – Substances (solids and liquids) which in contact with water emit flammable gases.
- These are dangerous goods which can react with water to produce flammable gases such as acetylene and hydrogen.

- Show and explain danger labels, marking and placards.
- Dangers and precautions to be exercised when transporting the three sub classes UN Class 4 substances.
- Other possible subsidiary dangers including toxicity, oxidising, explosiveness and corrosivity.
- Driver's duties in relationship to temperature control for certain UN Class

		<p>4.1 products Self Reactive Substances (SADT) and Self Polymerising Substances (SAPT).</p> <ul style="list-style-type: none"> - Avoidance of overheating and sources of ignition. - Give common examples of substances with UN numbers – 4.1 firelighters, solids containing flammable liquid, - 4.2 ferrous metal turnings, phosphorus white - 4.3 sodium metal <p>v. Characteristics of UN Class 5 and the two sub classes.</p> <ul style="list-style-type: none"> - Define the classes - Class 5.1 Oxidising substances - Class 5.2 Organic Peroxides - Show and explain danger labels, marking and placards. - Dangers and precautions to be exercised when transporting UN Class 5 substances. Readily give off oxygen or other oxidizing substances (such as bromine, chlorine, or fluorine). Avoid mixing with flammable or combustible material. Avoiding overheating and sources of ignition. <p>They can:</p> <ul style="list-style-type: none"> - speed up the development of a fire and make it more intense. - cause substances that do not normally burn readily in air to burn rapidly. - cause combustible materials to burn spontaneously without the presence of obvious ignition sources such as a spark or flame. - Other possible subsidiary dangers including flammability (Class 5.2), explosiveness, toxicity and corrosivity. - Effects of oxidisers on combustion even in the absence of air. - Organic peroxides contain combustible elements (organic) and oxygen and the effects of these in a fire. - Driver's duties in relation to temperature control for certain UN Class 5.2 products (SADT). - Provide common examples of substances and Un numbers for example, hydrogen peroxide, nitrates, hypochlorites. <p>vi. Characteristics of UN Class 6 and the two sub classes.</p> <ul style="list-style-type: none"> - Define the classes - Class 6.1 Toxic Substances - Class 6.2 Infectious Substances - Show and explain danger labels, marking and placards. - Dangers and precautions to be exercised when transporting UN Class 6 substances. Toxic and infectious substances present a 		
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		<p>significant danger on contact which may lead to ill health or fatal consequences. Avoid contact.</p> <ul style="list-style-type: none"> - Other possible subsidiary dangers including flammability, and corrosivity. - Entry into the body may be through inhalation, ingestion, skin contact (absorption) or injection (needle stick injuries). The label/placard does not indicate the possible ways these substances could enter the body - The effects can be either immediate (acute) or long term (chronic). - Explain the difference between Category A (very high risk) and B (medium risk) substances for UN Class 6.2. Most common material transported is category B and clinical waste (medium / low risk waste). - Provide examples of waste products from human or animal health care and/or related research (link to waste regulations). - Segregation methods and in particular from foodstuffs, and responsibility of all persons involved. - Note Special Packaging marks for Biological Substance, category B “UN3373” [ADR P650] and no requirement for a transport document or need for ADR driver training certificate. - Avoiding contamination when putting on and removing personal protective equipment (PPE). - Containment of used sharps to prevent needle stick injuries. - The need for rapid decontamination in the event of exposure to certain Class 6 products. - Provide common examples of substances and UN numbers for example, carbon monoxide, hydrogen sulphide, clinical waste from hospitals and clinics, blood samples, veterinary samples. <p>vii. Characteristics of UN Class 8 corrosive substances</p> <ul style="list-style-type: none"> - Define class - Contains mostly acids and alkalis although chemical opposites have very similar corrosive effects. - Show and explain danger labels, marking and placards. - Dangers and precautions to be exercised when handling and transporting UN Class 8 substances – may cause harm immediately on contact, irritating or destroying skin tissue. The more concentrated the substance the greater the danger. Avoid contact. - May react violently with many other materials for example, metals, destroying material and may generate heat and 		
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		<p>harmful gases or vapours.</p> <ul style="list-style-type: none"> - Other possible hazards including toxicity, flammability and oxidising. - Reaction rate increases with temperature. - May react violently with heat, water and neutralising agents. - Specific hazards with hydrofluoric acid (UN1790) which must be handled with extreme care and the use of antidotes. - Provide common examples of substances and UN numbers for example, nitric and sulphuric acid Sodium hydroxide <p>viii. Characteristics of UN Class 9 substances.</p> <ul style="list-style-type: none"> - Define class - Show and explain danger labels, marking and placards. - No specific hazard information from label. - Provide common examples of substances and articles with UN numbers. - Environmentally hazardous substances and EHS mark. - Lithium batteries and the use of the 9A label and when it is used. <p><i>[Examples, such as those shown below of substances with UN Numbers and other relevant details.</i></p> <ul style="list-style-type: none"> - <i>Asbestos – UN 2212, UN 2590 (Classification Code M1)</i> - <i>PCBs –UN 2312, and UN 3432 (Classification Code M2)</i> - <i>Polymeric beads expandable – UN 2211 (Classification Code M3)</i> - <i>Lithium batteries – UN 3090, UN 3091, UN 3480, UN 3481 (Classification Code M4)</i> - <i>Lifesaving appliances such as UN 3268 (Classification Code M5)</i> - <i>Solid and liquid environmentally hazardous substances, not classified elsewhere in the regulations – UN 3077, UN 3082 (Classification Code M6, M7)</i> - <i>Liquids transported hot at or above 100°C – UN 3257(such as some road making materials) (Classification Code M9) and molten solids at or above 240°C – UN3258 (Classification Code M 10)]</i> 		
E	This outcome to be achieved by instructional video and demonstration. Tutors may also use a suitable resuscitation model but this is	<p>E. What to do after an accident</p> <p>I. Practical measures to be taken</p> <ul style="list-style-type: none"> - Focus on assessing the situation after an accident or incident - Driver/crew should not put themselves or anybody else at risk - Raise alarm – contact emergency services 	5	2

<p>not mandatory. Demonstration of treatment of differing symptoms.</p> <p>By means of instructional video and demonstration using examples of fire extinguishers.</p> <p>Examples of all PPE to be demonstrated and correct fitting and wearing.</p> <p>Participants to be given a specific accident scenario(s) and be asked to identify the main actions to be taken in writing. Demonstrate use of spill kit</p> <p>By means of classroom instruction, using slides (PowerPoint©), class participation, illustrative examples and case studies. Confirmation of understanding by means of questions requiring oral and written answers.</p>	<ul style="list-style-type: none"> - Isolate vehicle battery (where switch is fitted) - Put on PPE - Place self-standing warning signs to warn road users. - Control scene, keep other road users and pedestrians away from danger - Assist any injured persons - Control small vehicle fires (cab or tyres) if safe to do so - Take load documentation and pass on to emergency services - Consider moving vehicle to reduce risk <p>II. Instructions in writing (IIW) (A copy of the current version of the IIW will have already been issued to each participant). Detailed reading and discussion on contents, its intended purpose and to aid drivers and crew.</p> <ul style="list-style-type: none"> - Page 1 Actions in the event of an emergency - Pages 2 and 3 – Summarise hazard characteristics of different classes. - Page 4 – Equipment/PPE on board (<u>minimum mandatory equipment and PPE</u> to be supplied by the carrier and made available on the vehicle). <p>III. Personal Protective Equipment</p> <ul style="list-style-type: none"> - Basic PPE – high visibility vests, gloves, eye protection. - Suitability of PPE for product/task for example, different types of gloves and eye protection, respirators. - Additional PPE that may be required (based on risk assessment/goods carried) - emergency escape mask, anti-static and flame retardant overalls, respirators – stress disposal after use for cartridges, expiry dates of filters and so on. and proper fitting for face masks Chemical suits Safety Boots – different types for example, Wellington boots, antistatic, oil resistant, toe protection. Neck capes and visors Safety Helmets – note shelf life stamped on helmet <p>IV. Equipment on board</p> <ul style="list-style-type: none"> - Torch (non-sparking (“EX” rated) for flammable liquids and gases) - Wheel chock - Two self-standing warning signs - warning triangles/ cones - Eye wash and expiry date, not mandatory for certain classes - Spill kit – drain seal, shovel and container (mention absorbent materials, commercial spill kits) note, only required for solids and 		
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		<p>liquids of certain classes</p> <ul style="list-style-type: none"> - Fire extinguishers – type, capacity and in date. Note also pressure gauge readings where applicable and general condition (corrosion/damage), must be readily accessible on vehicle. <p>V. Provide instruction on the practical use of equipment on board</p> <ul style="list-style-type: none"> - Spill kit and appropriate situations to use the kit and when to contact emergency services - Warning triangles/cones. When to deploy and placement of warning signs (road side breakdown) in different road situations (place minimum 10m from vehicle and further on fast roads) - Wheel chock, size and suitability and when to use chocks - Eye wash (first aid) – for the irrigation of eyes or skin <ul style="list-style-type: none"> - Mandatory PPE and equipment in accordance with IIW may be supplemented following a risk assessment carried out by the employer with reference to dangerous goods carried, type of vehicle and additional duties identified for the vehicle crew by the employer. <p>VI. First Aid (see specified videos)</p> <ul style="list-style-type: none"> - Instructions in Writing identify specific hazards which may cause harm to those who are exposed to the dangerous goods. <p style="text-align: center;">Explain and provide suitable examples of:</p> <ul style="list-style-type: none"> - Low oxygen (asphyxiation) (reduced levels of oxygen due to displacement of air or reduced levels of oxygen in the air, for example, LPG, carbon dioxide, nitrogen, petroleum fumes - Burns and destruction of tissue from heat, chemical (corrosives) and low temperatures - Chemical / biological contamination in particular, poisons, infectious substances <p>Treatments</p> <ul style="list-style-type: none"> - Chemical/foreign object in eye: eye irrigation – each vehicle should have 1 litre of eye wash and the expiry date should not be exceeded. Irrigate affected eye for several minutes (10 to 15 mins) using available eyewash or suitable facilities if available on site (eye-wash station). - Chemical contamination - remove contaminated clothing and wash skin with copious amounts of water - Control of bleeding – basic principles of applying pressure, elevation and dressing wounds - Minor and severe fractures – basic principles of immobilising affected area 		
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- CPR and Recovery Position. – Video/Demonstration only (it is not envisaged that each participant will practice CPR and recovery position).

- **In all situations to seek medical help as soon as possible.**

Note. This course does not provide a recognised certificate in first aid. It is intended to inform candidates and raise awareness of basic first aid techniques which may be used by candidates.

VII. Fire- fighting (see specified videos)

- The nature of fire and the fire triangle
- Different types of portable fire extinguishers; candidates should be able to handle a portable extinguisher and be provided with instruction on the correct use of the extinguisher
- Identification of fire extinguishers
- Associated risk of fires (harm to persons, destruction of property, spread of fire, harm from smoke and fume inhalation)
- Common fires on vehicles such as tyre and engine fires – drivers are expected to engage if safe to do so
- Prohibition on fighting fires involving the load

Note. This course does not provide a recognised certificate in firefighting. It is intended to inform candidates and raise awareness of basic techniques which may be used to tackle small fires involving the vehicle cab or wheel fires.

VIII. Emergency Scenarios (may only be taught following the preceding elements of serial E)

- Tutor to prepare a typical emergency scenario in writing and issue to the class. It is expected that two scenarios will be addressed during the course.

For example:

1. evidence of a leak of dangerous substances from a vehicle for example, flammable, corrosive or toxic liquids
2. road traffic accident involving other vehicles
3. cab and load fire on dangerous goods vehicle

Ensure that each trainee prepares a response, discusses proposed solutions, provides and discusses ideal responses, this should cover appropriate action by the driver/crew (this should include assessment of the situation, notify emergency services/employer, appropriate use of PPE and equipment, control of scene, preventing harm to self and others, first aid, hand over to emergency services and what action to avoid – fire in load, exposure to

		hazardous goods).		
F	<p>Demonstration of different types of packaging showing UN codes and labels. Examples of labels, placards and marks.</p> <p>By means of classroom instruction, using slides (PowerPoint©), class participation, illustrative examples and case studies. Confirmation of understanding by means of questions requiring oral and written answers.</p>	<p>F. Packaging, marking, labelling, placarding and orange coloured plate marking and Exemptions</p> <p>i. Packaging</p> <ul style="list-style-type: none"> - Awareness of packaging requirements, UN marks and exemptions related to excepted and limited quantities. - The purpose and types of packages regarding their containment, integrity, durability and pressure retention, including the need for ullage and relieving excess pressure. - Illustrate different packaging types – box, drum, jerrican, bag, IBC, large packaging, combination packaging (including shrink wrapped) different pressure receptacles for gases. - Explain the link between UN packing code (X, Y and Z) to packing groups. - Illustrate use of overpack and marking. - Examples of different types of packaging should be demonstrated. - Drivers should not accept leaking or damaged packages (Note loader responsibility not to load damaged or leaking packages). <p>ii. Marking, Labelling and Placarding</p> <p>The driver must have a good understanding of:</p> <ul style="list-style-type: none"> - The marks and labels required for packages, IBCs and overpacks. - Orientation arrows and other marks, limited quantity, excepted quantity, lithium battery mark, fumigation mark and coolant/conditioning warning mark - Environmentally hazardous mark (not required if the quantity is less than 5 kgs or 5 litres per package) - Bulk and bulk carrying vehicle marking. - Difference between transport in bulk and in tanks - Vehicle orange plates - requirements for ADR and IMDG, for example, collection of container from a port. - Marking of bulk loads - Placement/location and fire resistance of plates/placards - When plates must be in place and when they should be removed by the driver. - Introduction to hazard identification numbers (HIN). <p>(Note: marking and placarding of tanks covered in tanks specialisation)</p>	2	1

		<p style="text-align: center;">iii. Exemptions from ADR</p> <p>General awareness of:</p> <ul style="list-style-type: none"> - Small Load /quantities per vehicle The allocation and purpose of transport categories and exemptions related to quantities carried per transport unit including mixed transport category loads (ADR 1.1.3.6) – cover what provisions still apply and what does not and implications for drivers, note exemption for the driver to hold an ADR driver training certificate. - Limited quantities and implication for drivers. - Excepted quantities and implication for drivers. - Other commonly applied exemptions for example, dangerous goods carried which are ancillary to main activity, clean empty packaging. <p>Provide overview of marks, transport documents (absence of), level of training required.</p>		
G	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>G. What a driver should and should not do during the carriage of dangerous goods</p> <p>Should do (non-exhaustive list)</p> <ul style="list-style-type: none"> - carry out pre start checks including the ADR equipment - ensure to obtain and read the correct documents - ensure load is secure (during carriage and loading and unloading activities) - explain transfer of responsibilities between loader/unloader and driver (in accordance with a contract for carriage). Note when driver may not be held responsible under carriage regulations for example, when loader has secured vehicle and driver is unable to verify security of load at the outset. - observe rules for the supervision of vehicles - follow emergency procedures - drive with due care and attention - raise any concern with vehicle, goods, documents as soon as an issue arises - follow site rules when collecting or delivering goods - appropriate cleaning of vehicle for example, minor spills - ensure (as far as practicable) to accept and unload correct dangerous goods <p>Set out details of supervision of vehicles</p>	1.0	0.5

		<p>as per ADR 8.4 and when these rules apply. Give examples for different commons substances and when supervision is required for example, petrol.</p> <p>Should not do (non-exhaustive list)</p> <ul style="list-style-type: none"> - smoking or use of electronic cigarettes - carry unauthorised passengers - open packages - attempt to extinguish a fire involving the cargo - accept damaged packages - keep engine running during loading/unloading (note when this is acceptable) 		
H	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>H. Purpose and the method of operation of technical equipment on vehicles</p> <p>General awareness of:</p> <ul style="list-style-type: none"> - operation of equipment on vehicles – tailifts, powered pallet trucks, refrigeration systems, pumps for off-loading IBCs, load securing systems, - Stress that equipment should be in good working condition/maintained - On the job training must be provided by the employer for all transport equipment and machinery 	0.5	0.25
I	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>I. Information on Multimodal Operations affecting drivers (focus on IMDG Code)</p> <ul style="list-style-type: none"> - IMDG Code, RID, ADN and ICAO TI - Differences in codes for example, vehicle marking, marking of packages and segregation - Documents DGN, DGR – when carried and interface with ADR transport document - Container or Vehicle packing certificate required for vehicles on IMDG journeys - When air or sea regulations applies during a road journey - implication for driver. 	0.5	0.25
J.	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies. Video on load securing Examples of load securing,	<p>J. Handling and Stowage of Packages (ADR 7.5.7)</p> <p>Load security – ADR: “Load must be secured to the vehicle”.</p> <p>Note. Practical training and provision of equipment is the responsibility of the employer.</p> <p>Overview - forces against which a load must be secured</p> <ul style="list-style-type: none"> - forward, sideways, rearward directions and up that is, in all directions due to the vehicle under acceleration, breaking, turning, hitting bumps or potholes. - load must be secured against, emergency breaking /manoeuvring - driver responsibility to secure prior to 	1.5	1

driving off (clarify responsibility between consignor/loader and carrier/driver – may be addressed in a contract for carriage) and throughout journey (part deliveries) when the driver will release and re-secure goods.

Methods of load securing

- locking for example, twist locks for containers
- blocking/bracing for example, use of headboards, side/tail gates and bars to restrain cargo, also use of dunnage (airbags and pallets)
- attaching (direct lashing), for example, on plant and equipment
- top over or tie down frictional lashing – for pallets, IBCs
- spring lashing
- Combination of methods and friction (how to improve friction – use of materials e.g. friction mats)
- Use of edge beams to distribute force and wear protectors to prevent damage to load and lashing equipment
- vehicle design re load security, for example, lashing points.
- **Friction alone in not an option!**

Load Distribution awareness

- ensuring that axles or bogies are not overloaded

Overview of Equipment and Standards (1 daN =1Kg)

- load straps to meet EN 12195-2 – (show typical straps /labels):
- Tension force achieved by Hand Force e.g. 50daN – “S_{HF} 50 daN”
- Lashing Capacity e.g. “LC 1600 daN”
- Standard Tension Force e.g. “S_{TF} 400daN”lashing points rated to meet EN 12640
- Vehicle bodies and headboards to meet EN 12642 Class XL
- Need for inspecting equipment to ensure it is not damaged (e.g. frayed straps, broken anchor point)
- Calculation of the appropriate number of load straps for top over/tie down frictional lashing
- Need for checking and retightening of the load during the journey (loading and unloading)

Note: additional requirements apply for road /sea crossing (IMDG Code)

[It is not expected to provide detailed instruction on calculations for load securing, however an example(s) should be provided and a “rule of thumb” for common loads for

		<p><i>example, IBC and pallets: Full load of pallets or IBCs on a flatbed vehicle, load tight to head board and tail board – minimum of 1 x strap with a STF of at least 300daN, top over lashing, for each adjacent pair of IBCs/pallets along the load.</i></p> <p><i>For partial loads/free standing (no other blocking or direct lashing), 2 x straps with a STF of at least 300daN, top over lashing, for each adjacent pair or single pallet/IBC.</i></p> <p><i>Tutors should illustrate and make reference to the European Best Practice Guidelines on Cargo Securing for Road Transport, 8.9.2, examples of stowage and securing of the most commonly used packages for chemical goods in road transport and emphasise the need for role specific training]</i></p> <p>Prohibitions on mixed loading</p> <ul style="list-style-type: none"> - Rules on segregation (ADR 7.5.2) - Segregation from foodstuff <p>Note: IMDG rules on segregation are more stringent than ADR where loader /packer specific training is required.</p>		
K	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies. Video on vehicles in tunnels	<p>L. Traffic Restriction in Tunnels</p> <p>A good understanding of:</p> <ul style="list-style-type: none"> - Tunnel Categories - Tunnel restriction codes assigned to dangerous goods - Relationship between codes on dangerous goods and tunnel category - Use of transport document – identify tunnel restriction code - Examples of Tunnels and category for example, Dublin Port Tunnel, Mont Blanc, Dartford, Euro Tunnel - Provide example of goods permitted to enter Dublin Port Tunnel and examples of goods prohibited 	0.5	0.5
L	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies. Video on security	<p>M. Security Provisions</p> <p>General awareness of:</p> <ul style="list-style-type: none"> - Classification of dangerous goods in relation to security, high consequence dangerous goods, security plan - Security awareness – basic steps to prevent theft or misuse of dangerous goods - Use of vehicle tracking, - Importance of not disclosing details regarding the load and its destination 	0.5	0.5
		Total	21	10

Tanker Specialisation Course Summary

Serial		Description	Teaching Units Initial	Teaching Units Refresher
A		A. General Description of ADR Tanks and Tank Containers/Portable Tanks	3	1.5
B		B. Operational Procedures	3	1.5
C		C. Specific Requirements of the Vehicles	3	1
D		D. General Knowledge of the various and different filling and discharge systems	3	1
E		E. Behaviour of Vehicles on the road	2	1
		TOTAL	14	6

Tanker Specialisation Course

Serial	Outline Instructions for Training Providers	Description	Training Units Initial	Teaching Units Refresher
A	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies. Models of ADR tanks and tank containers. Examples of placards for ADR and IMDG. Examples of orange numbered plates. Written exercises on marking and placarding of an ADR tank and Portable Tank and HINs	<p>A. General Description of ADR Tanks and Tank Containers/Portable Tanks</p> <p><u>Highlight the responsibility of employers to provide training on specific vehicles, equipment and mechanisms, and with specific loads.</u></p> <p><u>Outline :</u></p> <ul style="list-style-type: none"> - The definitions of tanks in terms of construction and size, and illustrate with suitable examples. <p><i>[may exclude “demountable tanks” if clear examples are not available. Trainees are not expected to memorise ADR tank definitions]</i></p> <ul style="list-style-type: none"> - Portable tanks are intended for worldwide use while RID/ADR tank containers are limited to land transport in Europe and short international sea journeys under certain conditions (mostly on roll on/roll off ferries where the tank remains on the road vehicle). - The application of regulations concerning the construction and approval of tanks and tank vehicles. - National and international requirements for tanks and vehicles to be inspected and certified. Outline the period of inspection and testing requirements. - Plating of tanks and the information displayed on the data plate. - National provisions for tanks built before July 2003. 	0.75	0.5
B	By means of classroom instruction, using slides	<p>B. Operational Procedures</p> <p>Note: duties of the “filler” may often be carried out by the driver. Highlight participant roles and</p>	5.25	2.5

	<p>(Powerpoint), class participation, illustrative examples and case studies. Examples of tanks Examples of placards for ADR and IMDG Examples of orange numbered plates. Written exercises on marking and placarding of an ADR tank and Portable Tank and HINs</p>	<p>responsibilities and drivers assuming “filler” responsibilities under a contract for carriage.</p> <p>The general application of national and international (ADR, IMDG, RID) requirements for the operation of tanks and tank containers/portable tanks. Outline:</p> <ul style="list-style-type: none"> - The requirement for vehicles to carry documentation, including Instructions in Writing, the ADR Driver Training Certificate, transport documentation (including when notionally empty), authorisations and “Certificate of Approval for Vehicles Carrying Dangerous Goods” and the “National Transport Only” version for vehicles restricted to national operations. - For portable tanks and tank containers, a vehicle certificate of approval is required for the chassis or skeletal trailer. (Exemption in Irish Regulations from the requirement to <u>carry</u> this certificate) - The safety precautions to be taken in the course of filling, discharge and during the journey, including: <ul style="list-style-type: none"> - Checks of the vehicle and load, including the secure fastening of containers, and the use of any relevant equipment, - Segregation of loads - Use of earth connection when handling flammable liquids and gases, - Adherence to site safety rules and procedures. Note site induction training may be required, - Reporting to a responsible person, - Locating emergency equipment, - Securing the vehicle against accidental movement, - Ensuring that the correct substance is filled. - Taking precautions against contamination of the load. - Using the appropriate (PPE), - Ensuring that there is sufficient capacity for the load and the vehicle is not overloaded and that there is adequate ullage space remaining after filling. Controlling the rate of filling, and taking all necessary precautions against fire or explosion. - The avoidance of overfilling, including the use of dipsticks, ullage bars, sight glasses, gauges, meters and weigh-bridges. - Discharging tanks (note overlap with filling procedures) -including the drivers’ responsibility for reporting to the person in charge, following site rules, locating the emergency equipment and so on. 		
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		<ul style="list-style-type: none"> - Ensuring that the load is discharged into the correct tank, and that there is sufficient space for it, providing a sample of the load if required, making the correct connections, taking precautions against accidental vehicle movement, fire or explosion or implosion (due to the formation of a vacuum), and following the correct procedures for unattended driver discharge/ attended driver discharge including obtaining a certificate from a responsible person on site). - Using appropriate routes, avoiding built up areas, low bridges other hazards and routes with restrictions relating to the transport of dangerous goods. - Checks during the journey, including ensuring that hoses are secured and have blanking caps secured in place, that there are no leaks, that components are not overheating, that all documentation is available, and that vehicle marks and placards are in place are clean and clearly visible. Drivers should be reminded of their security duties if the load is high consequence dangerous goods (HCDG) - Placarding and marking of vehicle/tankers and tank containers/portable tanks under ADR: <ul style="list-style-type: none"> - the size, layout and content of orange plates including the requirement not to become detached in a rollover situation and to withstand 15 minutes in a fire, - hazard identification numbers, - fire resistance and the positioning and use of plates/placards and the environmentally hazardous mark. Note exemption from fire resistance for vinyl orange plates applied to portable tanks and tank containers. - When plates/marks/placards must be applied and when they may be removed. - Explain marking requirements for a fixed tanker, single substance tanker, multiple substance tanker, fuel tankers, tank containers and portable tanks. - Placarding and marking of tankers and tank containers/portable tanks under the IMDG code for journeys by sea, the number, positioning and use of placards for primary and subsidiary risks and for single and multiple loads, requirement for proper shipping names, UN numbers and marine pollutant mark, and resistance to sea water. - The causes and effects of Boiling Liquid Expanding Vapour Explosions 		
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		<p>(BLEVEs).</p> <ul style="list-style-type: none"> - The causes of static electricity, and the specific precautions to be taken to avoid its dangers, including the use of anti-static clothing and non-sparking tools. - The cleaning and purging of tanks and ancillary equipment, for example, pumps, hoses, and so on, including the driver's individual responsibilities, precautions (with particular reference to tank entry), avoidance of implosion. 		
C	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>C. Specific Requirements of the vehicles</p> <p>Outline:</p> <ul style="list-style-type: none"> - The types of loads for which tanks may be designed, including fuels, liquefied petroleum gas (LPG), flammable liquids, gases transported at very low temperatures [cryogenic], powders and granules, insulated or heated loads, refrigerated loads, foodstuffs (for example, alcoholic beverages), corrosive substances, and wastes. - The materials from which tanks and tank containers may be constructed, including stainless steel, mild steel, aluminium, nickel, fibre reinforced plastic, and the various linings which may be used. - The construction of tanks and tank containers, atmospheric and pressure tanks, compartments, baffles and surge plates. - Petroleum fuel tankers – loading and discharge, vapour recovery, use of hose reels. Petroleum fuel tankers are NOT pressure tankers and should not be pressurised above atmospheric pressure. - Stability, rear end projection, fire resistant cabs and ullage space. - The requirements for maximum filling ratios and when minimum filling ratios apply. - The significance to the filling, discharge and transport of materials re the Maximum (Allowable) Working Pressure (MAWP). - The fitting and use of sun shields. - The purpose, operation, precautions and drivers responsibilities in relation to items of equipment, including: man lids, seals and bolts, dip sticks, pressure relief equipment, pressure and vacuum relief valves, bursting discs, flame traps and gauzes, pressure connections and pressure gauges, temperature gauges, outlet valves and manifolds, valve controls, seals, hoses, hose connections and blanking caps, emergency shut off valves and excess flow valves. Where bursting disks are 	3	1

		fitted, drivers should be aware of the means to verify if ruptured for example, manometer reading		
D	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>D. General Knowledge of the various and different filling and discharge systems.</p> <ul style="list-style-type: none"> - Closed and open systems including top only filling and emptying. - Filling and discharging using gravity or pumps, including the use of pumps or compressors either on the vehicle or external to it. - The use of tipping tanks, including the use of pressure, stabilising legs, precautions in high winds and the dangers of sticking loads and overhead obstructions. - The use of the prime mover engine to drive, through power take off (PTO), a pump or compressor and the proper control of engine speed. - Decompression before disconnection, and the avoidance of implosion - Discharge by pump, including pump priming. - The correct connection of hoses, pumps and syphons, and correct sequence for valve opening. - The specific precautions to be taken when filling and discharging dangerous substances using top discharge, LPG, cryogenic gases and dangerous wastes. 	3	1
E	By means of classroom instruction, using slides (Powerpoint), class participation, illustrative examples and case studies.	<p>E. Behaviour of Vehicles on the Road</p> <ul style="list-style-type: none"> - Surge during braking and acceleration, and the need for the driver to anticipate and “acclimatise”. - The need for clutch control and appropriate braking techniques, with and without ABS. - Lateral movement due to sudden steering manoeuvres and roll-over. - The roles and limitations of surge plates <i>[may need to explain the difference between surge plates and baffles – surge plates are transverse items to prevent forward /backward slosh while baffles are longitudinal inserts to prevent side to side slosh]</i> and rules on minimum filling ratios. - The responsibility of the driver to avoid danger, jack-knifing and roll over by anticipation, smooth driving and the control of speed to match the driving and traffic conditions. 	2	1
			14	6

Tutor Reference Material

- ADR - Current version
- IMDG Code - current version
- ICAO Technical Instructions - current version
- Irish Regulations S.I. 349 of 2011 to 2017 and later amendments
- H S A publications including "A Guide for Business",
- Emergency Response Guide 2016 (ISBN 978-1-59804-813-1) or later
- Hazardous Cargo Bulletin
- The Tank Container 2016 – Loek Maagdenberg
- Unloading Petrol from Road Tankers Health and Safety Executive UK
- Examples of current Multilateral agreements that are applicable in Ireland

- Current version of Instructions in writing
- HSA guides on load security
- European Best Practice Guidelines on Cargo Securing for Road Transport, 2014
- Health and Safety Authority/IRU – International Guidelines on Safe Load Securing for Road Transport
- Health and Safety Authority – Load Safety Series, Information Sheet on Safe Load Securing on Curtain-sided Vehicles

Video material to be incorporated into training programme (may be sourced from www.YouTube.com)

- Hazard presented by each ADR hazard class (various examples available, see links below)
- Behaviour in Tunnels
- Static Electricity
- Security (Lockdown)
- BLEVE
- **Use of portable fire extinguishers:**
- How to use a Fire Extinguisher – "Workplace Safety Demonstration - Rescue 365" (3 min video)
- How to use a Fire Extinguisher – "Dry Chemical / Dry Powder (DCP)" (2 min video)
- "Types of Fire Extinguisher and Their Uses" (3 min video)
- **First Aid:**
- CPR - PHECC "Citizen CPR" (2 min. video) / How to do CPR on an Adult - First Aid Training - St John Ambulance (4 min. video)
- "How to Treat Severe Bleeding - First Aid Training" - St John Ambulance (5 min video)
- "How to Treat Burns and Scalds - First Aid Training" - St John Ambulance (4min video)
- **Load Security:** selected HSA and UK DVSA/HSL videos

Below are some sample YouTube videos on the Hazard Classes, these should be edited to ensure that material relevant to the transport of dangerous goods by road

<https://www.youtube.com/watch?v=v82GgNNMiHw>

<https://www.youtube.com/watch?v=EIH6TvSj0LM>

<https://www.youtube.com/watch?v=SFCfW7LTOvY>

<https://www.youtube.com/watch?v=xcT4i93kTpi&list=PLkyqqwhmybnTTgWkDtFFkN-p6CjLxUnLt&index=26>

<https://www.youtube.com/watch?v=vhoUFP3k3U0&list=PLkyqqwhmybnTTgWkDtFFkN-p6CjLxUnLt&index=33>

Tutor reference material - Case studies and reports of major accidents involving dangerous goods such as;

- **Los Alfaques**
- https://en.wikipedia.org/wiki/Los_Alfaques_disaster
- Overloading
- Driver Training

- Incorrect use of tank
- Routing
- **Maddington (Perth), (2009)**
- http://www.dmp.wa.gov.au/Documents/Dangerous-Goods/DGS_SafetyStats_AR_FuelTankerFireAtMaddington2009.pdf
- serious fire during petrol discharge at service station
- **Herborn (1987)**
- Tanker brake failure
- **Albright and Wilson**
- <http://www.hse.gov.uk/comah/sragtech/casealbright96.htm>
- Incorrect product delivered

Appendix B

Forms for Notification of Approved Courses

Form CDGR I - Initial Basic or Tanker Specialisation

Form CDGR II - Refresher Basic or Refresher Tanker Specialisation

Notification of Courses: Initial Basic or Tanker Specialisation Training

Course Provider:			
Dates of Course:			
	Start Time	Finish Time	Location
Day 1			
Day 2			*
Day 3			*
Day 4			*
Day 5			*

* only required if different from day 1.

Course	Yes	No	Number of Participants (maximum 16)
Initial Basic			
Tanker Specialisation			

	Name of Tutors
1	
2	
3	

Addition comments:	

Signed		Date	
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Notification of Courses: Refresher Basic or Refresher Tanker Specialisation

Course Provider:			
Dates of Course:			
	Start Time	Finish Time	Location
Day 1			
Day 2			*

* only required if different from day 1.

Course	Yes	No	Number of Participants (maximum 16)
Refresher Basic			
Refresher Tanker Specialisation			

	Name of Tutors
1	
2	
3	

Additional comments:

Signed		Date	
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Appendix C
Form CDGR111

Tick as appropriate:

Initial Training		Refresher Training		Both	
First Time Approval		Re-approval			

Approval Submission Form	
Name of Training Provider	
Address	
Contact Phone Number	
Expiry Date of existing Letter of Approval (where applicable)	
Date of Submission	

Submission includes:

Item	Details	Included (Tick)
1	Full set of tutor notes (electronic format).	
2	A copy of trainee handouts (hardcopy and electronic format).	
3	Tabulated training Programme (Guidance Ref. 3.3.3)	
4	Details of how mandatory practical exercises will be arranged and assessed.	
5	Copies of the written material for “desk-top” exercises, Q&A exercises, mock exams provided.	
6	Notes on the methods to be employed in the management of the courses including how course materials and tutors will be kept up to date with changes.	
7	List of training aids used.	
8	List and copies of videos used.	
9	List and copies of audio-visual presentations used.	
10	List of personal protective equipment used.	
11	List of fire-fighting equipment used.	
12	List of first-aid equipment used.	
13	List of any other aids used.	
14	List of names, qualifications and experience of all course tutors and copies of all relevant certificates.	
15	The appropriate fee.	
Comments		