

# Transport of Dangerous Goods According to the ADR Agreement

Doha, October 24 2013

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*IRU Academy Certified Instructor*

# Why safety transportation standards are key





# Why safety transportation standards are key



Spain Los Alfaques-1978  
200 people died – 300 injured

A gas-truck explosion devastates a seaside campsite

# Why safety transportation standards are key



Accident between a coach  
and a tank vehicle –  
Langenbruck 1984

20 people died

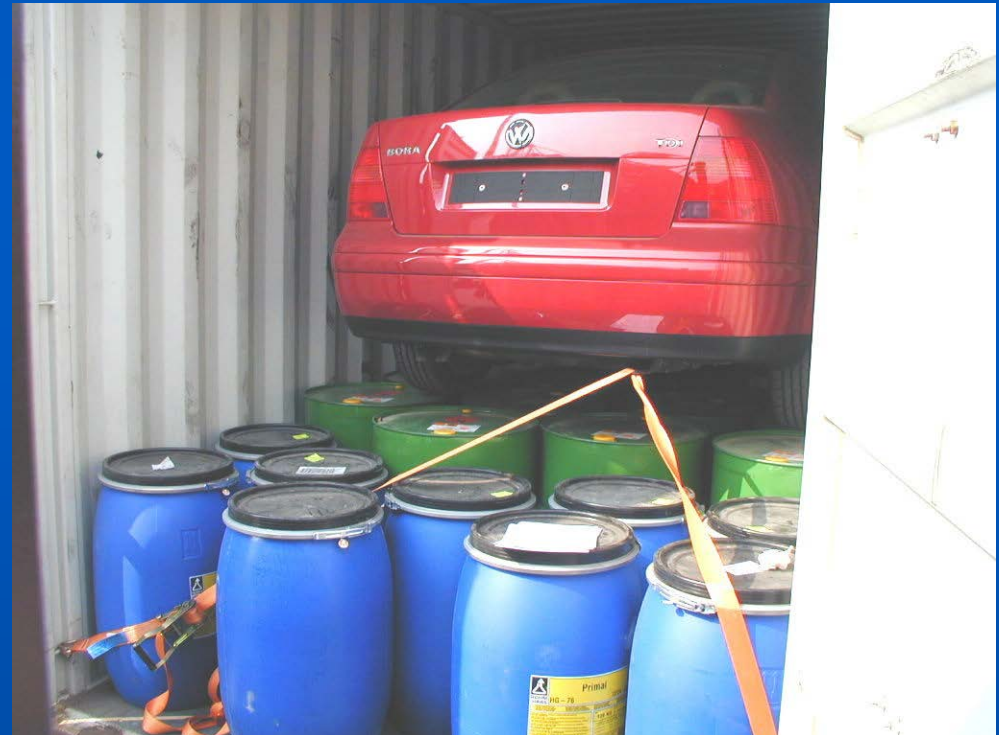




# Current practices that places the people and society at risk

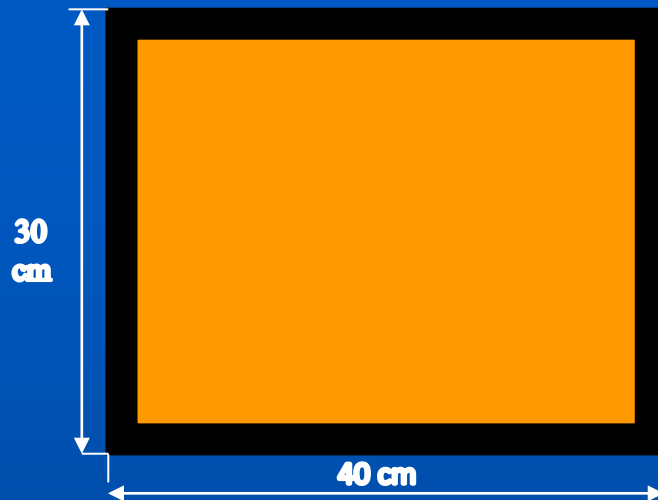


# Current practices that places the people and society at risk

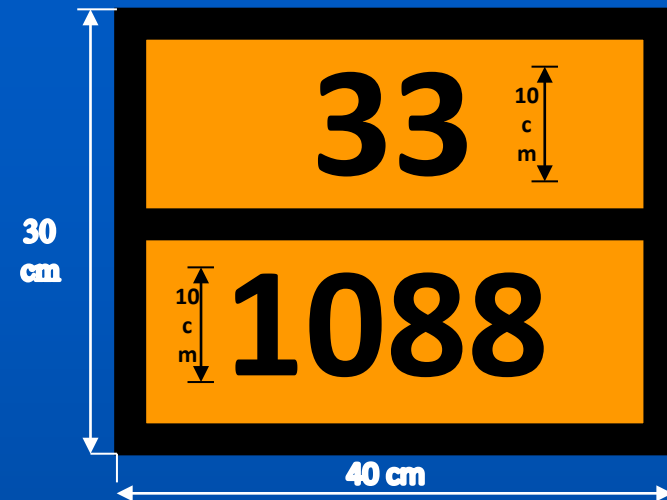


# Risk Management: Identification of products transported

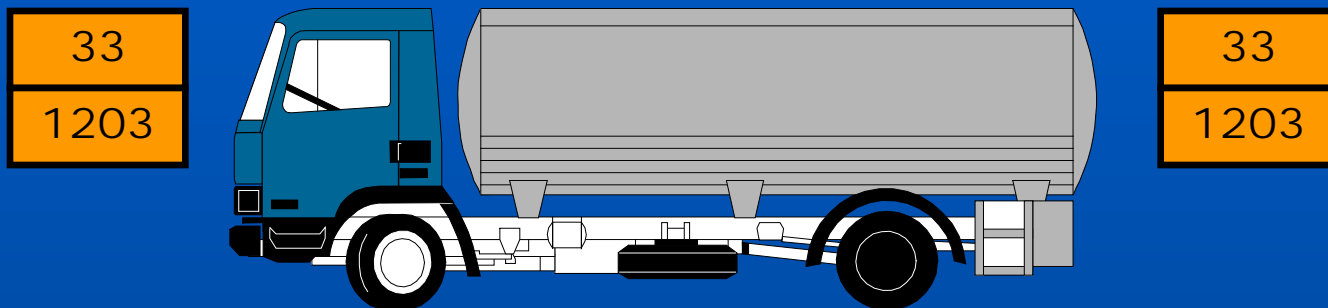
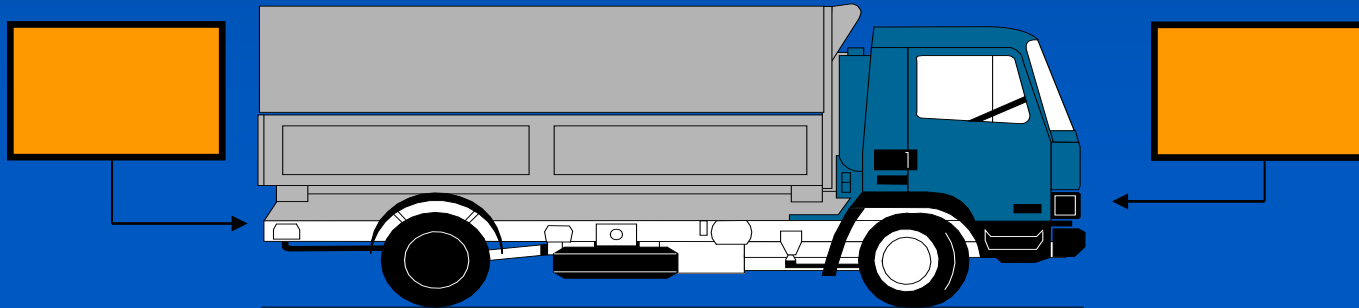
...for all vehicles  
(front and rear):



...with hazard  
identification number  
and UN number, for  
tank transport (both  
sides):

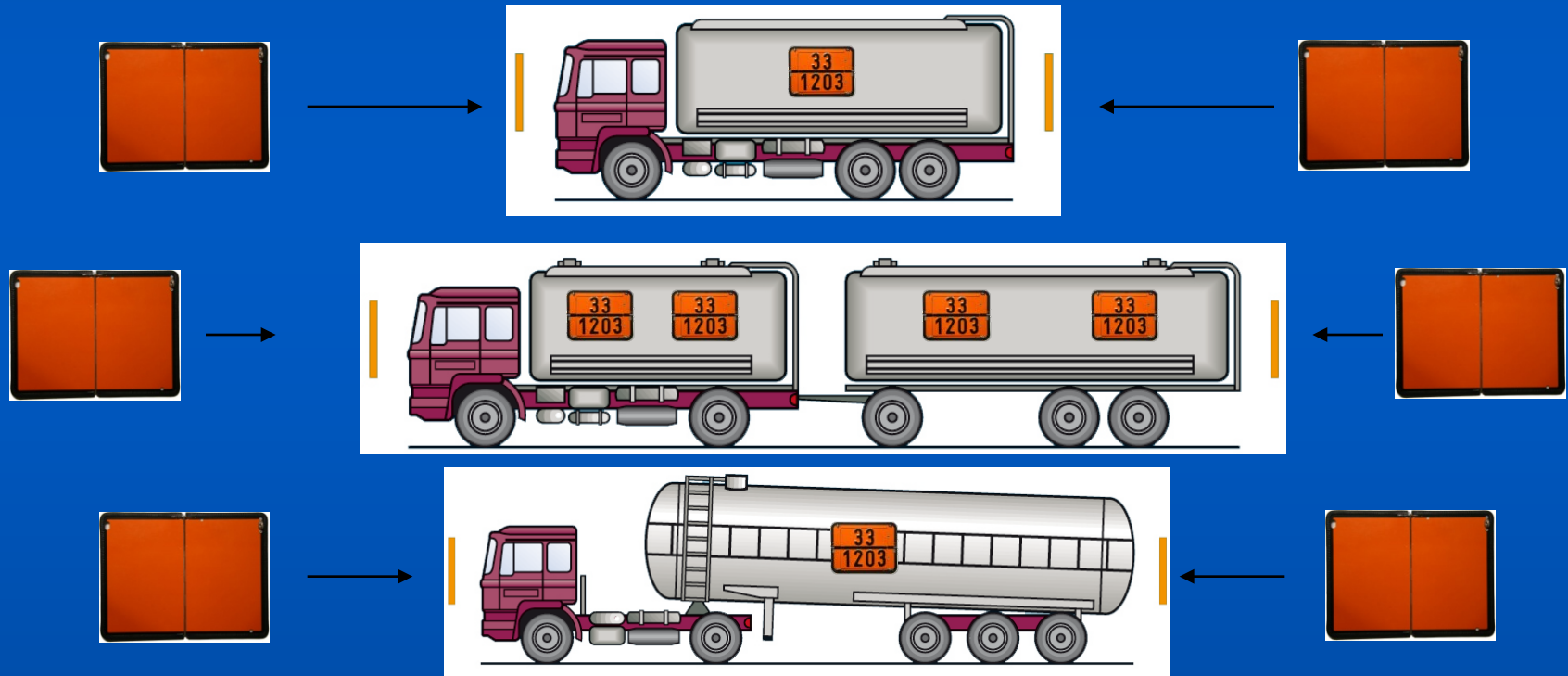


# Risk Management: Identification of products transported

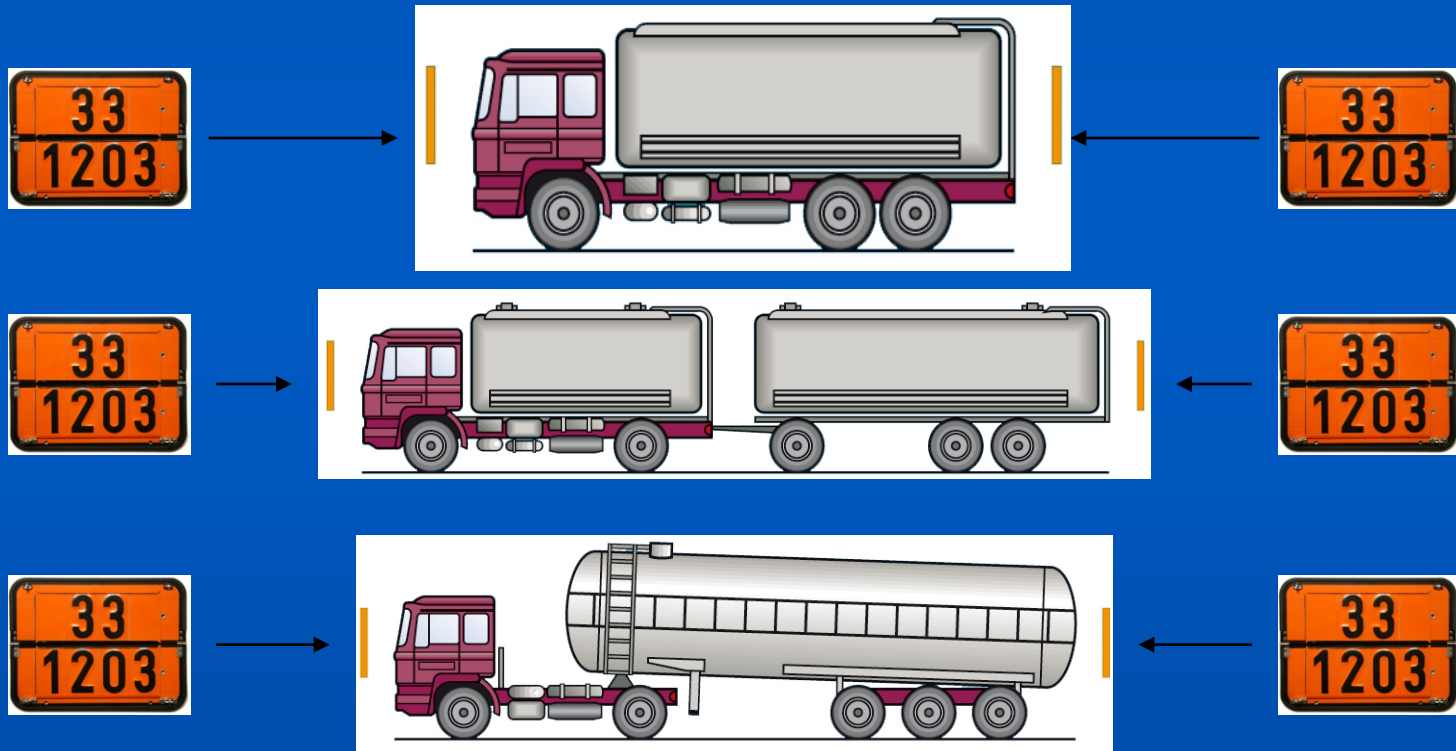




# Risk Management: Identification of products transported



# Risk Management: Identification of products transported



# Risk Management: Identification of dangers

Placards should not be less than 250mm by 250mm





# Risk Management: Vehicle markings



# Risk Management: Vehicle markings

Front



Rear





# Expectations?



**What would you expect from  
The people that are involved  
in the transport of dangerous  
Goods?**





# ADR Driver duties and responsibilities



<i>Field of activity</i>	<i>Tasks, skills or knowledge</i>
<b>DRIVING</b>	<ul style="list-style-type: none"> <li>• Drive with due regard to statutory regulations and traffic regulations relating to the transport of ADR goods (e.g.. Speed limits, routing...).</li> <li>• Park the vehicle with regard to regulations.</li> </ul>
<b>MAINTENANCE</b>	<ul style="list-style-type: none"> <li>• Maintain the vehicle's equipment (fire-fighting equipment, telecommunication equipment, equipment limiting speed...) in accordance with general and specific requirements concerning the transport of ADR goods</li> <li>• Check that equipment is on board the vehicle before departure.</li> <li>• Carry out a daily check on the state of the vehicle.</li> <li>• Ensure that the vehicle is correctly cleared.</li> </ul>

# Driver duties and responsibilities



## **COLLECTION / DELIVERY**

- Recognise correct labelling and marking of parcels, containers and vehicles
- Recognise typical dangerous goods packaging
- Apply regulations concerning the compatibility of transported materials and the incompatibility of batches.
- Check that the goods are transported in an appropriate type of vehicle
- Ensure that the vehicle is correctly cleaned
- Respect the specific requirements concerning stowage and steadying of goods
- Before commencing loading, check the adequacy between volume available and volumes to be transferred
- Participate in loading and unloading operations in compliance with existing procedures.
- Select the appropriate means of handling as required
- Check the loading instructions
- Uncouple the vehicle and close slippered outlets, etc...
- React appropriately to specific bans on delivery (places, dates and times)
- Recognise the general classification and the characteristics of hazardous goods
- Identify the danger class to which the products belong

# Driver duties and responsibilities



<p><b>INFORMATION / COMMUNICATION</b></p>	<ul style="list-style-type: none"> <li>• Check that all necessary IT tools (mobile phone, electronic data base system...) are on board</li> <li>• Check that all necessary IT tools (mobile phone, electronic data base system...) are working</li> <li>• Check that the required documents are on board</li> <li>• Check that the transport documents are complete (identification of products, safety requirements)</li> <li>• In the absence of transport documents, or if these are not complete, obtain information from the appropriate source</li> <li>• Place the transport documents so that they are readily available</li> </ul>
<p><b>SAFETY / QUALITY</b></p>	<ul style="list-style-type: none"> <li>• Identify the risks of the transport of hazardous goods and safety requirements detailed in written emergency instructions</li> <li>• Show ability to follow security regulations and implement emergency procedures</li> <li>• Check the availability of individual protective equipment such as clothes, breathing equipment and that it is adapted to the risks according to the goods transported</li> <li>• Respect the safety requirements defined by the shipper, the consignee or the haulier</li> <li>• Intervene efficiently and appropriately in case of vehicle breakdown or incident involving the load (for example, help prevent contamination in the case of spillage)</li> <li>• In the case of accident intervene to protect self and surroundings</li> <li>• Recognise the incompatibility of certain substances</li> <li>• Identify safety equipment required for ADR transport</li> </ul>



# Expectations?

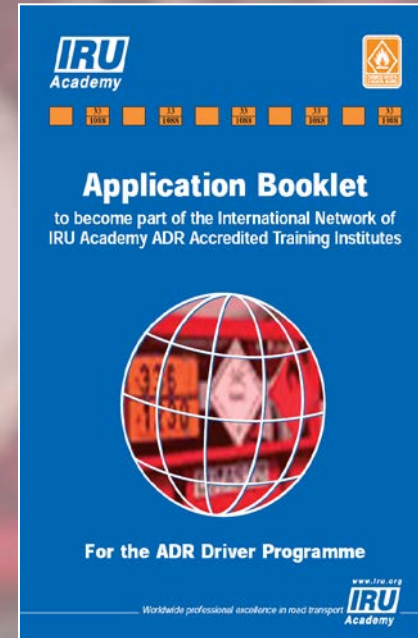
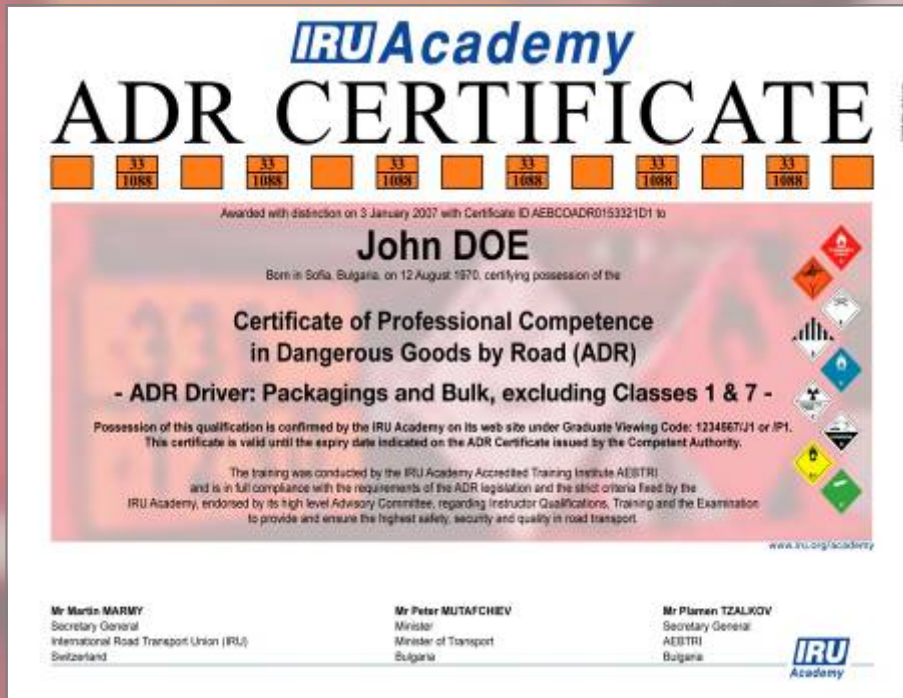


**How can drivers, carriers,  
loaders  
achieve the level of  
competence to deliver safe  
and efficient transport?**

# IRU Academy Dangerous Goods (ADR) Programme



Full compliance with the ADR 2013 Agreement



Safety

## ADR Training Requirements

**8.2.1.1 Drivers of vehicles carrying dangerous goods shall hold a certificate** issued by the competent authority stating that they have **participated in a training course and passed an examination** on the particular requirements that have to be met during carriage of dangerous goods.

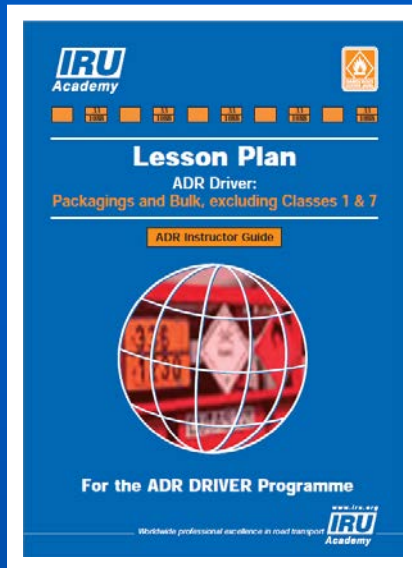
**8.2.1.2 Drivers of vehicles carrying dangerous goods shall attend a basic training course. Training shall be given in the form of a course approved by the competent authority. Its main objectives are to make drivers aware of hazards arising in the carriage of dangerous goods and to give them basic information indispensable for minimizing the likelihood of an incident taking place and, if it does, to enable them to take measures which may prove necessary for their own safety and that of the public and the environment, for limiting the effects of an incident.**



- ✓ ADR Basic training course for Drivers
- ✓ ADR Specialisation training course for carriage in tanks
- ✓ ADR training course for Loaders
- ✓ Dangerous Goods Safety Adviser Programme

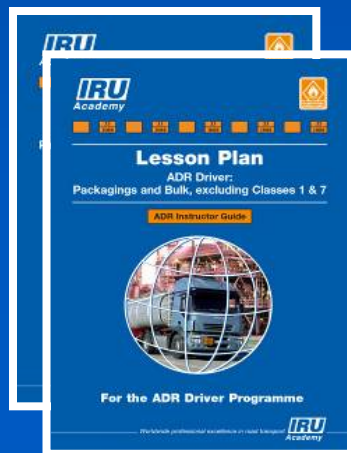


## ADR Driver: Packaging and Bulk, excluding Classes 1 & 7



No.	Title	Length (Minutes)
0	Opening of the course	15
1	Introduction	45
2	Shipping terminology / procedures	90
3	Experimental presentation	135
4	Vehicle Markings	60
5	Fire-fighting "theory"	45
6	Fire-fighting "group practice"	100
7	First aid	45
8	Provisions for the construction of vehicles and equipment	45
9	Transport provisions	75
10	Stowage	45
11	Exemptions	45
12	Behaviour in the event of an accident	45
13	Carriage of waste	45
	Summary	15
14	Practice	30
15	Examination	(100)
	Closing of the course	15

# ADR Train the Trainer



Lesson Plans & Recap Exercises

Interactive training



Competence



Learning materials

ADR visuals





ADR Accidents



Safe Loading and  
Cargo Securing



Fire Fighting  
exercises...



... and much more





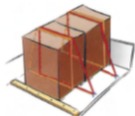
## Calculator: Specific and practical advices

© IRU Academy

Safe Loading and Cargo Securing

### Loop lashing

Data	
Weight of cargo (t)	8
Angle $\alpha$ of lashing device relative to loading platform (deg)	65
LC value of lashing device (daN)	400
Friction between goods and loading platform ( $\mu$ )	0.7



**Instructions**

Enter the data in the highlighted fields. The resulting number of pairs of lashings required is indicated in the "Results" table.

*Note: The results take into account the stability parameters entered in the "stab" sheet, and the blocking and mode of transport data entered in the "basic" sheet.*


Results	
Number of lashing pairs required to prevent sliding	2

**Friction coefficients**

Sawn wood or standard pallet - fabric base laminate/plywood 0.45

## Latest International Reference Standard CEN 12195-1:2010

## Interactive simulation environment



The simulator interface includes a top navigation bar with 'IRU Academy' and 'SIMULATOR' labels. Below the navigation bar are several tabs: 'Cargo', 'Stab', 'Basic', 'Simulation', 'Pallet', and 'Blocking'. The main area displays a 3D view of a truck with cargo. An information panel on the right shows: Weight: 900 kg, Friction Coefficient: 0.3, Dimensions: 1.2 x 1.2 x 3.6 m. Below the 3D view is a 'Loading Plan - Graph' showing a line graph of Pressure (kg) vs. Distance from the front wall (m). The graph shows a peak pressure of approximately 28,000 kg at a distance of about 10 meters from the front wall. The truck model below the graph has a 'CG' (Center of Gravity) marker.

http://academytraining.iru.org/ - Absorb Anywhere - Windows Internet Explorer

Logged in as Patrick Philipp Log Out

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Using the IRU Academy's Content Management System (ACM)

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Outline Description Resources Courses

Tachograph Programme for non ATIs

**Course Description**

Movie: Tachograph  
 Presentation: Tachograph Programme and Training  
 Document: Tachograph Instructor Briefing Course Outline

**Legal Instruments - EU**

Document: EU Regulation 561-2006  
 Document: EU Regulation 3821-85  
 Document: EU Directive 1360-2002  
 Document: EU Regulation 2002-15  
 Document: EU Regulation 2003-59  
 Document: EU Regulation 2135-98  
 Document: EU Regulation 2007-230  
 Document: EU Guidance Note

**Class 8**  
**Corrosive substances**

The heading of Class 8 covers substances and articles containing substances of this Class which by chemical action attack epithelial tissue - of skin or mucous membranes - with which they are in contact, or which in the event of leakage are capable of damaging or destroying other goods, or means of transport. Also covers other substances which form a corrosive liquid only in the presence in water, or which produce corrosive vapour or mist in the presence of natural moisture of the air.

**Packing group**

I = highly corrosive  
 II = corrosive  
 III = slightly corrosive

UN 1789 HYDROCHLORIC ACID Class 8, II  
 UN 2796 SULPHURIC ACID Class 8, II

IRU Academy Dangerous Goods (ADR) Instructor Briefing 25 © International Road Transport Union (IRU) 2011

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**Resource Center**

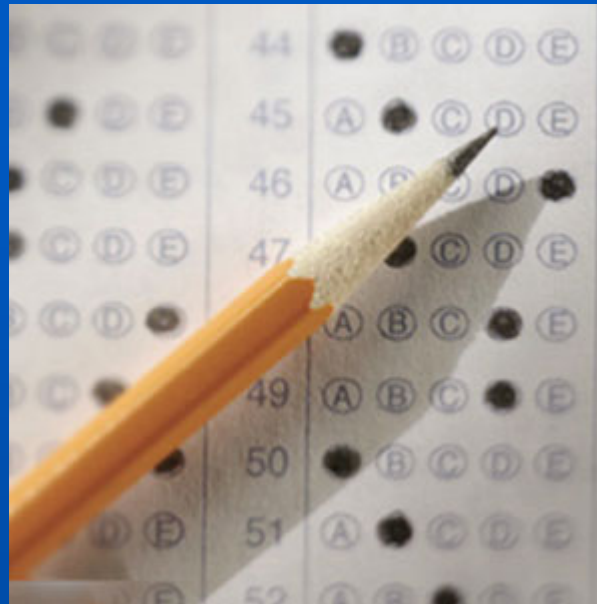
**Accredited Training Institutes can access up-to-date learning material, reference information and multimedia resources through a single web access**

Congratulations to KTTDC, Mowasalat – who successfully delivers first of its kind ADR Training Programme in Qatar



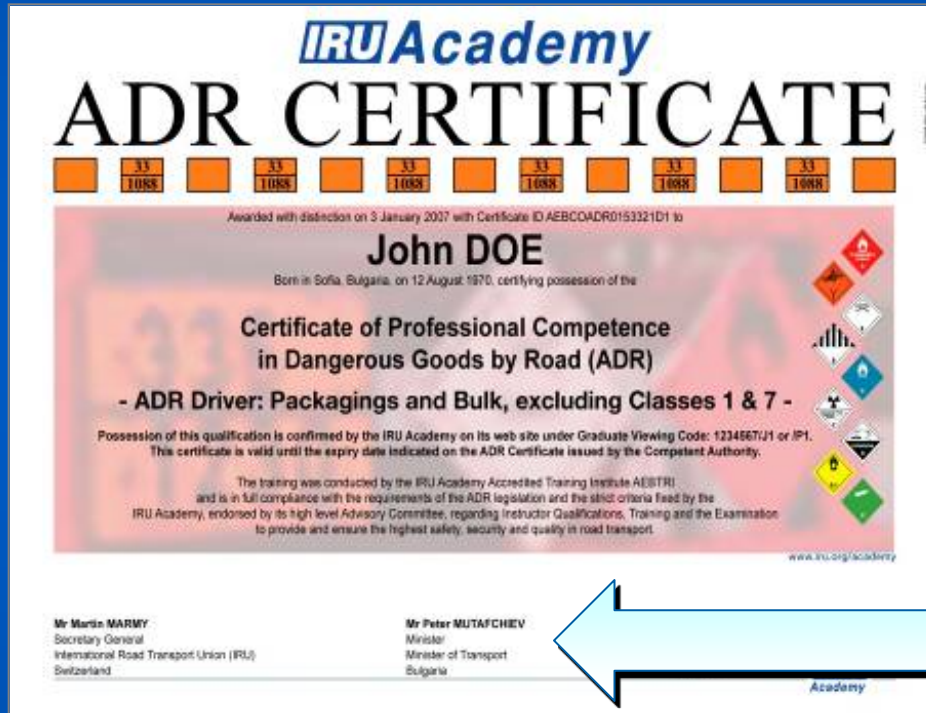
Pilot ADR Programme – April 2012

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# International & Pan-Arab Recognition

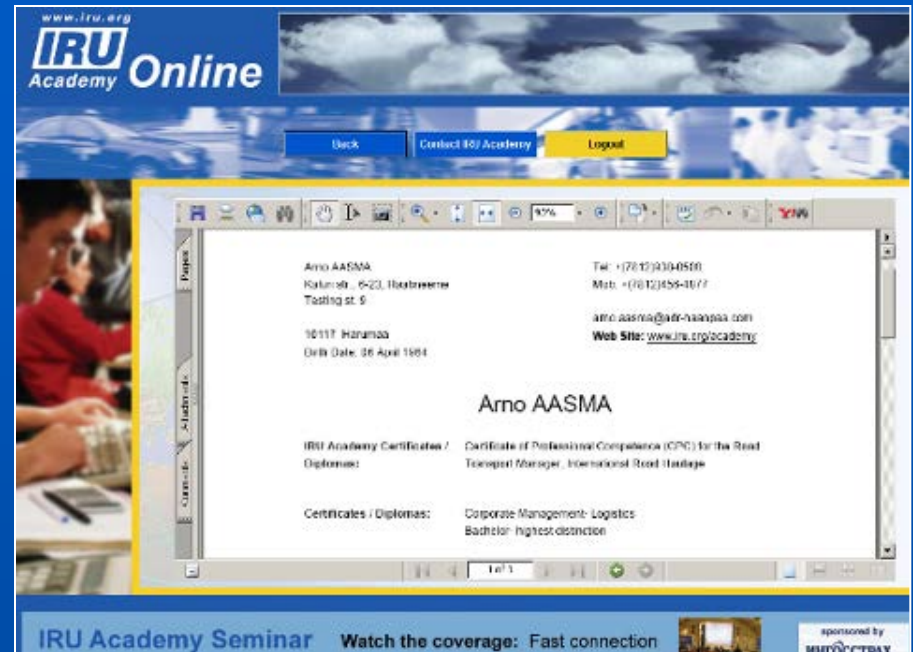
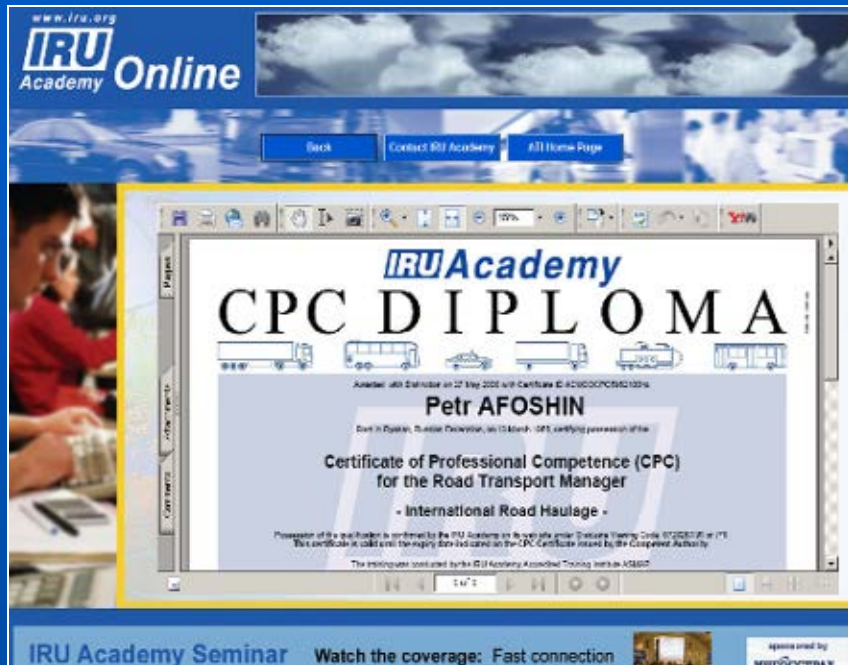


Pan-Arab Certification  
 Recognition through the  
 Arab Union of Land  
 Transport

Regional Examination  
 authority

## Promotion

- IRU Academy ATI promotion
- IRU Academy graduate promotion
- Real-time credential verification



**Stay Safe, Competitive  
and Compliant!**







*Working together  
for a better future*

**IRU**

*since 1948*