

Meaning of the orange-coloured plate marking



- ◀ Hazard identification number
- ◀ UN number of the product

Dimensions: at least 30 cm x 40 cm

The hazard identification number consists of two or three figures. In general, they indicate the following hazards (according to RID 5.3.2.3.1):

- 2 = Emission of gas due to pressure or to chemical reaction
- 3 = Flammability of liquids (vapours) and gases or self-heating liquid
- 4 = Flammability of solids or self-heating solid
- 5 = Oxidizing (fire-intensifying) effect
- 6 = Toxicity or risk of infection
- 7 = Radioactivity
- 8 = Corrosivity
- 9 = Risk of spontaneous violent reaction
- X = The substance will react dangerously with water
- 0 = Where the hazard associated with a substance can be adequately indicated by a single figure, this is followed by zero (0). Doubling of a figure indicates an intensification of that particular hazard (for ex. code 33 = highly flammable liquid).

UIRR srl

rue Montoyer 31
B - 1000 Brussels

Tél. +32 2 548 78 95
E-Mail: efeyen@uirr.com



Placarding and marking: the basics

Placarding according to column (5) and, where appropriate, column (6) of Table A of Chapter 3.2 and the orange-coloured plate marking shall be affixed in conformity with chapter 5.3 (ADR/RID).

An orange-coloured plate bearing the hazard identification number and the UN number shall be affixed on both sides of the tank containers or portable tanks, MEGCs and containers for carriage in bulk.

During rail carriage, the trailers must keep their placard or orange marking and, where applicable, their markings.

Placards/labels corresponding to the hazardous substance being carried and, where applicable, their markings, shall be affixed to the four sides of the swap-bodies, large containers, portable tanks, tank-containers, MEGCs, tank semi-trailers (RID) and containers for bulk carriage (part 5.3.1.2).

For tank containers transporting substances listed in RID 4.3.4.1., the proper shipping name shall be inscribed in conformity with 6.8.2.5.2.

The provisions for the marking of units/road vehicles shall also be applied for uncleaned empty units (see 5.3.1.6 ADR/RID).

Example 1 Swap-body



- › **Provision:** placard on the 4 sides

Example 2 Container



- › **Provision:** placard on the 4 sides

Example 3 Container with maritime journey



- › **Provision:** placard(s) on the 4 sides
- › **Particulars:** only a dangerous good of more than 4 tonnes – addition of a UN number on the 4 sides

Example 4 Bulk container



- › **Provision:** placard(s) on the 4 sides + orange-coloured plate marking on the 2 lateral sides

Example 5 Tank-container (1 product)



- › **Provision:** placard(s) on the 4 sides + orange-coloured plate marking on the 2 sides
- › **Particulars:** for high-temperature substances, the placard of 5.3.3 on the 4 sides

Example 6 Tank-container – various substances



- › **Provision:** placard on both sides of each compartment and also a placard for each model on both ends + orange-coloured plate marking on both lateral sides of each compartment

Example 7 Tank-container (with maritime transport)



- › **Provision:** placard and UN number on the 4 sides + proper shipping name on minimum two sides (height of characters 65 mm) (5.3.2.0 IMDG)

Example 8 Tank-container – various substances – with maritime journey



- › **Provision:** placards and UN number on each side of each compartment

Example 9 Semi-trailer



- › **Provision:**
- › a) Orange marking (neutral): at the front and at the rear

OR

- › b) Placard on each side

Example 10 Semi-trailer with maritime journey



- › **Provision:** placard on the 4 sides
- › **Particular:** only dangerous good of more than 4 tonnes – addition of the UN number on the 4 sides

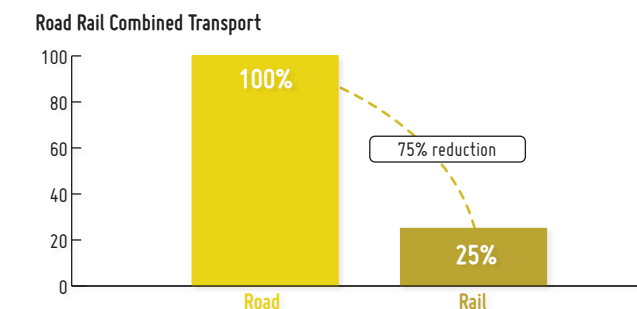
Example 11 MEGC, multiple element gas containers with maritime journey



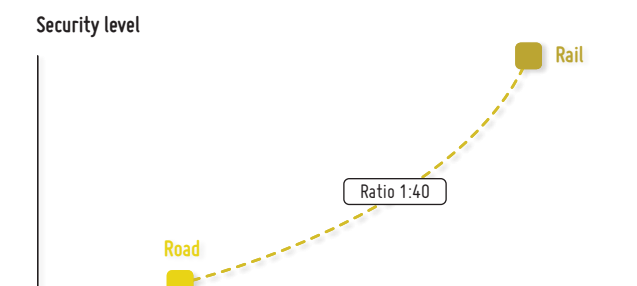
- › **Provision:** placard and UN number on the 4 sides

Combined Transport is a safe and environmentally-friendly transport technique

Reduction of CO₂ emissions in Road-Rail CT

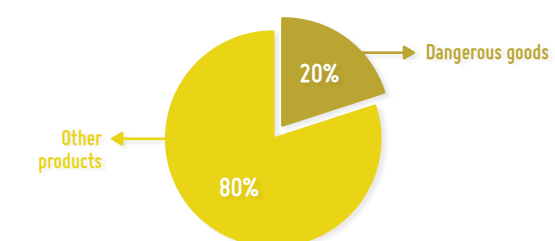


Considerable increase of transport safety in rail transport



Importance of Combined Transport with Dangerous Goods

Share of DG in the total transported volume (source UIRR)



THE ROAD-RAIL COMBINED TRANSPORT OF DANGEROUS GOODS

Version 2013-2014



supported by the Marco Polo Programme



Main changes in ADR/RID 2013

Substances used for cooling or conditioning (5.5.3)

For substances used for cooling and conditioning, ADR/RID 2013 stands among others a marking and an insertion in the transport document.

Environmentally hazardous substances (ADR/RID 2.2.9.1.10)

The 2011 ADR/RID took from the amendment 34 of the IMDG the specific rules for these substances. In accordance with the provisions of section 5.2.1.8.3, the new marking (see section "labeling and marking") will have to be applied when it comes to environmentally hazardous substances in compliance with section 2.2.9.1.10 ADR/RID.

Limited quantities (ADR/RID 3.4)

Prior to a transport not including a maritime leg, the forwarders of hazardous goods packed in limited quantities must inform in a traceable way the carrier about the total gross weight of the goods. Moreover the new diamond-shaped marking or the "LTD QTY" (valid until 30.06.2015) must be displayed on the four sides of the loading unit for transport over 8 tons in limited quantities (transitional measure 1.6.1.20 also to consider). Weights are now directly mentioned in the table 3.2 in column 7a.

Legal provisions

The carriage of hazardous goods is regulated by the RID in the case of rail transport, the ADR in the case of road transport, the IMDG in the case of maritime transport and the ADN in the case of inland waterway transport.

Goods prohibited for carriage

Hazardous goods suitable for road transportation can usually be carried by Combined Transport. Prohibited goods for carriage in Combined Transport are listed in Table A of the ADR/RID document with the word "PROHIBITED". Furthermore, the following types of hazardous goods are not permitted in Combined Transport:

- Class 1 Explosive materials in compatibility group A (UN numbers 0074, 00113, 0114, 0129, 0130, 0135, 0224 and 0473)
- Class 4.1 Self-reacting materials requiring a temperature-controlled environment (UN numbers 3231 to 3240)
- Class 5.2 Organic peroxides requiring a temperature-controlled environment (UN numbers 3111 to 3120)
- Sulphur trioxide with a purity of 99.95% transported in tanks without inhibitor (Class 8, UN number 1829).

Loading safety and controls

When the loading unit is delivered, the party that delivers the unit for Combined Transport guarantees that it is suitable and that the unit and the goods it contains meet the safety requirements for Combined Transport.

By "safety" it is meant that the state of the loading unit and the goods it contains allow a safe transport. Liquids and goods requiring specific temperature shall be loaded in suitable loading units. The packaging and securing of the goods shall be performed in accordance with the requirements specified in ADR/RID.

In Road-Rail Combined Transport, the requirements in paragraph 7.5.7.1 ADR are fulfilled if the cargo is secured in accordance with standard EN 12195-1:2010 (applicable to the design of securing methods of loads for surface transport by road vehicles and trailers). For Combined Transports including a sea voyage also the IMO/ILO/UN ECE Guidelines for packing of cargo transport units can be referred to.

Consequently, any danger or incident (content loss or vapour emission, smell) must be avoided during the rail transport which would be caused by not properly closed valves or by the unlocking of the domes.



- ▶ Loading rules: locking/closing of the domes

When transporting containers, it must be referred to the validity of the CSC plate or to the participation in the ACEP programme.

- ▶ Verification of the CSC plate with participation in the ACEP programme



If the ITU does not meet the statutory carriage provisions, it will have to be made compliant before it is allowed on the terminal. Should it prove impossible, the terminal shall not accept this unit.

The ITUs are handed over for transport (road) only if the carriers are duly identified in accordance with the process implemented in the terminals (1.10 ADR/RID). Moreover, some additional controls may be carried out by the terminal manager, namely the certificate of approval of the ITU/vehicle, the ADR training certificate of the driver and the availability of the safety instructions within the cabin.

Danger class and labelling (RID 5.2)

Class 1 Explosive substances and articles			
Class 2 Gas	 2.1 Flammable gases	 2.2 Non flammable, non toxic gases	 2.3 Toxic gases
Class 3 Flammable liquids			
Class 4 Flammable solids	 4.1 Flammable solids, self-reactive and desensitized	 4.2 Substances liable to spontaneous combustion	 4.3 Substances which, in contact with water, emit flammable gases
Class 5 Oxidizing substances and Organic peroxides	 5.1 Oxidizing substances	 5.2 Organic peroxides	
Class 6 Toxic and infectious substances	 6.1 Toxic substances		 6.2 Infectious substances
Class 7 Radioactive material			
Class 8 Corrosive substances			
Class 9 Miscellaneous dangerous substances and articles			

Information required during the carriage of Dangerous Goods

In accordance with ADR/RID 5.4, the following information shall be given to the CT operators either during booking or at latest when delivering the unit to the terminal.

Provisions for all classes

- The identification number of the hazard must precede the UN code when goods are transported in tank-containers, portable tanks, MEGCs and containers for carriage in bulk (only RID).
- The goods' UN number should be preceded by the letters "UN".
- The proper shipping name should be specified and, where appropriate, completed by its technical name in brackets (special provisions (SP) 61 and 27).
- Where appropriate completed with information foreseen by complementary special provisions (for example 640, 645, ...).
- Except for class 7, the number of the hazard label template mentioned in column 5 of table 3.2.A or where appropriate according to the SP of the column 6. Where several numbers of labels are given, the numbers which follow the first one must be indicated in brackets. If there is no corresponding label template, the class must be inserted.
- If relevant, the packing group attributed to the substance may be preceded by the letters "PG".
- If a substance meets the classification criteria of 2.2.9.1.10, the transport document must additionally contain the words "ENVIRONMENTALLY HAZARDOUS SUBSTANCE". This special provision shall not be applied for UN 3077 and 3082 neither for exemptions foreseen in 5.2.1.8.1.
- A declaration in conformity with the provisions of a particular agreement.
- For the transport of packages: the number and description of the packages, the total quantity of each substance should be characterized by its UN number, its proper shipping name and packing group (expressed in volume, gross or net weight as the case may be). The total weight of the dangerous goods must be mentioned in kg.
- Limited quantity: indication of the gross weight.

Additional provisions for class 1

- The Classification Code specified in column 3b of table A and, where appropriate, followed in brackets by the number of the label template other than 1, 1.4, 1.5 and 1.6.
- The total net mass of the explosive goods in kg. In case of a complete load, addition of the number of packages and the mass in kg of each package.

Additional provisions for class 2 (5.4.1.2.2d RID)

In the case of portable tanks and tank-containers containing deeply refrigerated liquefied gases, the consignor shall enter in the consignment note: "THE TANK IS GUARANTEED AS INSULATED IN ORDER THAT THE VALVES CANNOT OPEN BEFORE ...".

Additional provisions for transport including a maritime trip

For transport of an ITU preceding or following a maritime journey, where appropriate, the "specific provisions": "TRANSPORT ACCORDING TO 1.1.4.2.1" shall be added in the transport document.

Additional provisions for waste transport

The proper shipping name shall be preceded by the word "WASTE", unless this term is part of the proper shipping name (5.4.1.1.3).

Additional provisions for uncleaned empty ITUs and packages

For empty means of containment other than class 7 and for gas recipients with a capacity of more than 1000 l, the words "EMPTY, UNCLEANED" shall be indicated (5.4.1.1.6.1).

For empty packagings other than class 7, including receptacles for gases with a capacity of not more than 1000 litres, the goods' declaration must include the type of package followed by "EMPTY" (5.4.1.1.6.2.1).

Additional provisions for cooling or conditioning substances (ADR/RID 5.5.3.7.1)

During the carriage of containers that have been cooled or conditioned, the UN number preceded by the UN letters followed by the name indicated in Column (2) of Table A of Chapter 3.2 followed by the words "AS COOLANT" or "AS CONDITIONER" shall be indicated in the transport document.

For example: "UN 1845, CARBON DIOXIDE, SOLID, AS COOLANT".

Additional provisions for environmentally hazardous substances

When a substance belonging to one of classes 1 to 9 meets the classification criteria of 2.2.9.1.10, the transport document shall bear the additional inscription "ENVIRONMENTALLY HAZARDOUS" or "MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS". This additional requirement does not apply to UN Nos. 3077 and 3082 or for the exceptions listed in 5.2.1.8.1. The inscription "MARINE POLLUTANT" instead of "ENVIRONMENTALLY HAZARDOUS" is acceptable for carriage in a transport chain including maritime carriage.

Special marks

Substances carried at an elevated temperature (RID 5.3.3)



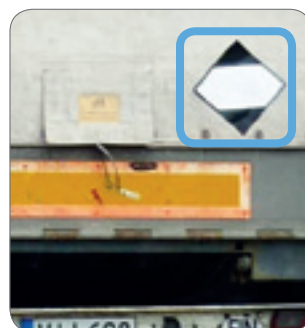
- ▶ Additional mark for substances according to special provision 580
- ▶ Sides: at least 25 cm
- ▶ Large containers, tank-containers and portable tanks: on 4 sides
- ▶ Road vehicles: on both sides and at the rear

Environmentally hazardous substances (RID 5.3.6)



- ▶ Large containers, MEGCs, tank-containers and portable tanks shall be marked with a placard of at least 25 cm x 25 cm – The mark shall be affixed on the 4 sides when a placard must be affixed in conformity with the provisions of chapter 5.3.1.

Limited quantities (RID 3.4.7 and RID 3.4.15)



- ▶ The "diamond" mark (at least 25 cm x 25 cm) or "LTD QTY" (valid until 30.03.2015 – height of the characters at least 65 mm) shall be affixed on the 4 sides of the container / at the front and rear for transport units during the transport of packages over 8 tonnes in limited quantities. This is not necessary if the unit already bears placards in accordance with 5.3.1 of RID.

Substances used for cooling or conditioning (5.5.3)



- ▶ Dimensions: 15 cm x 25 cm
- ▶ Containers containing dangerous goods used for cooling or conditioning shall be marked with a warning mark, as specified in 5.5.3.6.2 affixed at each access point in a location where it will be easily seen by persons opening or entering the wagon or container.