

REQUIREMENTS FOR CARRIAGE OF DANGEROUS GOODS BY ROAD - 1.4S

ADR 2013 UPDATE

The carriage of dangerous goods is regulated by:

- the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) 2013;
- the law no.1839 of 12 August 1962;
- EU Directive 94/55/EEC;
- Council Directive 2008/68/EC of 24 June 2008;
- Article 168 of Legislative Decree. No. 285/1992 and subsequent amendments;
- Legislative Decree no. 35 of 27 January 2010;
- EU Directive 2012/45/UE of 3 December 2012;
- the Ministerial Decree of 21 January 2013;
- regulation (EC) no. 1907/2006 (REACH); and
- regulation (EC) 1272/2008 (CLP).

The carriage by road of dangerous substances and objects is regulated by the European Agreement concerning the International Carriage of Dangerous Goods by Road, (ADR), signed in Geneva in 1957 and ratified by Italy through law no.1839 of 12 August 1962.

EU Directive 94/55/EC of 21 November 1994 has subsequently made the transposition and enforcement of these rules also mandatory for transports within the national territory.

EU directive 94/55/EC was replaced by Directive 2008/68/EC of 24 June 2008 establishing a common regulatory system covering all aspects of the inland transport of dangerous goods (by road, rail and sea). The decree implementing the Directive in Italy is Legislative Decree no. 35 of 27 January 2010.

The Ministerial Decree of 21 January 2013 implements Directive 2012/45/UE of the Commission of 3 December 2012 adjusting, for the second time, the Annexes of

Directive 2008/68/EC of the European Parliament and of the Council on the inland transport of dangerous goods to take account of scientific and technical advancements.

The ADR is updated almost every two years. It applies to all dangerous goods, substances or objects whose carriage by road is prohibited or authorized only under certain conditions by Annexes A and B.

On 1 January 2013 ADR 2013 came into force.

UN 0012 - UN 0014 - UN 0044 - UN 0055 OBJECTS: features and requirements to be ALWAYS OBSERVED

With reference to the carriage by road of objects identified by the Official Transport Designation as **UN 0012 CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS, UN 0014 CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK, UN 0044 PRIMERS, CAP TYPE** and **UN 0055 CASES, CARTRIDGE, EMPTY, WITH PRIMER**, on the basis of the information provided by the code ADR 2013, it should be noted that:

1. They belong to **Class 1 EXPLOSIVES**;
2. They are assigned to the **classification code 1.4S (Division 1.4 and Compatibility Group S)**. The assignment of the correct Division and Compatibility Group results from testing carried out on the product as indicated in Part 1 of the Manual on Tests and Criteria. For Compatibility Group S these tests are performed on the product and its packaging (as prepared for carriage).
3. They can be carried with the following **EXEMPTIONS**:
 - ✓ relating to **quantities carried per transport unit (para. 1.1.3.6)**
 - ✓ for **limited quantities** (only objects UN 0012, UN 0014, UN 0055) (chap. 3.4).

Requirements that must always be OBSERVED:

1. The personnel in charge of the carriage, loading and unloading of goods, and their handling in depots, shall receive from their employer general and specific training on the provisions governing the carriage of dangerous goods (para. 8.2.3), structured and provided in accordance with instructions set out in chapter 1.3;
2. Objects shall be packed in accordance with packing instructions provided in column (8) of the Dangerous Goods List (chap. 3.2).

For each UN number there will be a packing instruction:

- UN 0012 instruction P130;
- UN 0014 instruction P130;
- UN 0044 instruction P133;
- UN 0055 instruction P136.

These instructions are described in para. 4.1.4;

3. Packagings shall comply with the general packing provisions of para. 4.1.1. and with the special packing provisions for goods of class 1 of para. 4.1.5:

- they shall comply with the requirements described in chap. 6.1 and be approved by the competent authorities through prototypes testing as described in para. 6.1.5;
- they shall be marked with the mixed identification code as described in para. 6.1.3.

4. It is permitted to use **overpacks** as described in para. 5.1.2.

5. **Loading, unloading and handling** operations shall not be carried out if the examination of the documents or visual inspections of the vehicle reveal inconsistencies with ADR requirements, in particular with regards to security. Loading shall not be carried out if the vehicle is not clean or if its regular functioning is not guaranteed (para. 7.5.1.2). During loading, unloading and handling operations, packages shall be protected from damage (para. 7.5.7) and if damaged the goods cannot be handled unless they are secured. If during carriage or unloading operations some of the contents are found to have escaped, the damaged packages shall be secured (para. 4.1.1.19) and the vehicle cleaned (para. 7.5.8).

6. The stowage and handling of dangerous goods by vehicles or containers shall be carried out in compliance with provisions described in para. 7.5.7; if the load is stowed according to Standard EN 12195-1:2010 the provisions of para. 7.5.7 are considered observed.

EXEMPTION concerning QUANTITIES CARRIED PER TRANSPORT UNIT (Para. 1.1.3.6)

This system of 'partial' exemption from the application of ADR, requires only some provisions of the ADR to be observed.

UN 0012, UN 0014, UN 0044, UN 0055 all belong to **transport category 4**. This implies that the means of transport does not provide **any limitation to the load** (Table para. 1.1.3.6.3); it follows that they can be **carried in packages** in the same transport unit **WITHOUT** applying the following provisions (para.1.1.3.6.2):

1. With reference to the appointment of the ADR safety adviser as described in par. 1.8.3.2 (a), chap. 1.8; companies handling dangerous goods of para. 1.1.3.6 **ARE NOT obliged to appoint an ADR safety adviser;**
2. Concerning security as described in chap. 1.10;
3. With reference to plating and marking of containers and vehicles carrying only packages (chap. 5.3.), **it is not necessary to apply any signaling panel to vehicles, containers and trailers;**
4. With reference to "instructions in writing", **it is not necessary to give to the vehicle's crew members the "instructions in writing"** as described in para. 5.4.3;
5. Provisions and special provisions concerning carriage in packages as described in chap. 7.2; **no special construction or approval EX/II, EX/III of the vehicles used for the carriage of packages containing objects and goods in class 1 (specific exemption from the provisions as referred to in Part 9 of the ADR) is required;**
6. With reference to general provisions relating to the transport units and equipment on board (chap. 8.1), **it is not necessary to have identification documents with photos of each crew member on board the transport unit;**
7. With reference to general provisions relating to transport units and equipment on board (chap. 8.1), **it is not necessary to have the driver's training course certificate** (ADR driver's license or CPC para. 8.2.1. chap. 8.2);
8. With reference to general provisions relating to transport units and equipment on board (chap. 8.1), **items of equipment for general and personal protection are not required** (para. 8.1.5);
9. With reference to additional provisions relating to classes or specific substances (chap. 8.5_S1 (4)), **it is permitted to load and unload such goods in a public place outside or inside built-up areas, and no special permission or prior**

notice to the competent authority is required (special exemption from provisions of para. 7.5.11 (CV1) no.(1), (a) and (b) of ADR);

10. With reference to restrictions to the transit of vehicles carrying dangerous goods through road tunnels (chapter 8.6), **there are no restrictions**.

Apart from the above mentioned exemptions, in accordance with Part 8 of para.1.1.3.6.2 of the ADR and all other applicable parts, the following provisions shall be observed:

1. The driver shall be provided with the **transport document** drawn up in accordance with the provisions of para. 5.4.1 and, if necessary, the large container or vehicle packing certificate (para. 8.1.2.1 (a)).
2. The transport unit used shall be equipped with at least one **portable fire extinguisher** with a minimum capacity of 2 kg of dry powder (or an equivalent capacity of any other suitable extinguishing agent), with a seal ensuring its inactivity, approved, periodically inspected, and easily accessible (from para. 8.1.4.2 to 8.1.4.5).
3. The transport unit shall be equipped with **lighting apparatus** free of any metal surface liable to produce sparks (para. 8.3.4).
4. On the transport unit, in its vicinity and during the loading and unloading **the use of fire or of naked flames shall be prohibited** (chap. 8.5 S1 n. (3) and CV2 (2) para. 7.5.11).
5. The **monitoring of vehicles** shall always be guaranteed when the total net mass of explosive substance carried on the vehicle exceeds 50 Kg (special provision S1 (6) chap. 8.5). Under these conditions, as for chap. 8.4, **the vehicle shall be monitored** or alternatively **parked in a surveilled depot or secure factory premises**. In the event that such facilities are not available the vehicle shall be parked in locations that meet the requirements of chap. 8.4. Additionally, these substances and objects should always be under surveillance aimed at preventing any malicious act and to alert the driver and the competent authority in case of leaks or fire, as of prescriptions relating to prefectural transport licenses.

6. The special provisions relating to **mixed packaging** described in para. 4.1.10_MP23 (for UN0012, UN0014, UN0044 and UN0055), and _MP24 (for UN0012, UN0014, UN0044) shall be observed. **Numbers UN0012 and UN0014** can be packed only with goods or objects having the same UN numbers or in combination without any special mass limitation. **The number UN0044** can be packed with goods or objects UN0044, or with UN0027, UN0028, UN0160 or UN0161 up to a total explosive mass of 50 kg. **The number UN0055** can be packed only with goods or objects UN0055.
7. The special provisions relating to **mixed loading** shall be observed. Mixed loading is **PROHIBITED** only for goods bearing warning labels 4.1+1 and 5.2+1 and for other goods of class 1 belonging to compatibility groups A and L. Also **permitted is the mixed carriage of 1.4S goods and objects with foodstuffs**, other articles of consumption or animal feed without any particular precaution (for these kinds of goods the additional provisions of CV28 para. 7.5.11 do not apply). Mixed loading is also permitted with dangerous goods packed in limited quantities.
8. In the case of mixed carriage with permitted dangerous goods and objects, when calculating the **quantities carried on the transport unit for the assessment of the total net mass in kg of explosive substance which can be carried within the limits of the maximum allowable mass per transport unit** (par.7.5.5.2.2), the net mass of explosive substances belonging to Compatibility Group S shall not be taken into account.
9. **The loading surface of the vehicle or container shall be thoroughly cleaned** before the loading operation (para. 7.5.11 – CV2 (1)).
10. The **prohibition of smoking** inside or in the vicinity of vehicles or containers during the loading or unloading operation shall be observed (para. 7.5.9, para. 8.3.5 and chap. 8.5 S1 n.(3)).
11. The driver or his assistant **shall NOT open the packages** during carriage (para. 8.3.3).
12. Packages should be **marked and labeled** as follows:
 - The UN number shall be preceded by the lettering UN. Letters and numbers shall be at least 12 mm high; if the package has a maximum net mass of 30 kg they

shall be at least 6 mm high; for packages of 5 kg they shall have appropriate dimensions.

- The official transport designation shall be determined as described in para. 3.1.2;
- Label No 1 - Division 1.4;



The pictogram shall have black numbers on an orange background. Numbers shall be about 30mm high and 5mm thick (for a label of 100 mm x 100 mm)

When two or more goods are packed together, the package shall be marked and labeled for each good or item as described above (para. 5.1.4).

They shall also comply with provisions listed in the first part of the document.

EXEMPTIONS for dangerous goods PACKED IN LIMITED QUANTITIES (Chapter 3.4)

This is a system of exemption from (almost) all the requirements of ADR and is related to the goods contained in a single package; by making the right choices in terms of packaging of the products to be shipped, the carriage by road can be carried out **as if it were NON dangerous goods**.

The numbers **UN0012, UN0014 and UN0055** can be carried with a total exemption in compliance with chap. 3.4 if the maximum quantity for each inner packaging or object/item of a package is equal to **5 kg** (quantity indicated in column 7 (a) of Table A) and the total gross mass of the package shall not exceed **30 kg**.

In order to carry the objects in accordance with chap. 3.4, the package, as prepared for carriage, **shall pass the test series 6 (d)_Unconfined package test UN of Part 1 of the Manual of Tests and Criteria**, as provided by the competent authority (special provision 364 chap. 3.3).

The only provisions in addition to those reported in the first part of the document which MUST be observed are:

1. The **prohibition of smoking** inside or in the vicinity of the vehicle or container during loading and unloading operations (para. 7.5.9 and para. 8.3.5);
2. Restrictions on the transit of vehicles carrying dangerous goods in road tunnels of category (E) in cases where transport units or containers loaded onto transport units containing packages in limited quantities have **a maximum mass exceeding 12 tons** and the total gross mass of packages in limited quantities loaded onto a transport unit or container exceeds 8 tons (chap. 8.6)
3. Packaging **shall be marked** only with the pictogram:



Please note that the marking of the approved package as shown at point 3 of the first part of the document shall also be applied.

4. **Overpacks** shall bear the marking shown above if the marks on the packages included are not visible from outside. The provisions of para. 5.1.2.1 (a) (ii) (overpack marking with the UN number preceded by the lettering UN; the official transport designation for explosives; the labels provided, when necessary, for each dangerous commodity or object and the environmentally hazardous substance mark) and para. 5.1.2.4 (prohibition of mixed loading applied to overpacks as well as vehicles and containers) are valid **ONLY** if other dangerous goods NOT packed in limited quantities are included in the overpack. For the remainder, the provisions of para. 5.1.2. apply.
5. Before the carriage the consignor shall inform the carrier, so that the **total gross mass of the goods to be carried** in limited quantities can be traced (para. 3.4.12);
6. **Transport units with a maximum mass exceeding 12 tons carrying packages in limited quantities shall be marked as follows:**
 - if carrying only dangerous goods packed in limited quantities, they shall bear the marking of the above limited quantities on the front and back of the package, size 250x250mm;

- if also carrying other dangerous goods for which orange panels are required (as in para. 5.3.2), it may (or may not) in addition affix the marking of the above limited quantities, size 250x250mm.

Containers carrying packages in limited quantities on transport units with a maximum mass exceeding 12 tons shall be marked as follows:

- if only carrying dangerous goods packed in limited quantities, they shall bear on all four sides of the package the marking of the above limited quantities, size 250x250mm;
- if carrying other dangerous goods requiring plating as in para. 5.3.1, in addition to the plates it may (or may not) affix the marking of the above limited quantities, size 250x250mm;
- if the marking on the container is not visible from outside the transport unit, the same marking affixed to the container will be included on the front and to the back of the transport unit.

In the event that the total gross mass of the packages in limited quantities loaded onto a transport unit or container does not exceed 8 tons, it is NOT mandatory to mark the transport unit or container (para. 3.4.14).

7. The driver shall be provided, if necessary, with the large container or **vehicle packing certificate** (par. 5.4.2.).

Companies carrying goods with exemption for limited quantities are **NOT obliged to appoint ADR safety advisers** (para. 1.8.3.2 (a), chap. 1.8).