



TRANSPORT AND SOURCES DEPARTMENT

Montrouge, the 27<sup>th</sup> December 2017

CODEP-DTS-2017-024803

Addressees at end

**Subject:** Filling-out of orange-coloured plates for the transport of radioactive substances

- Ref.:**
- [1] Order of 29<sup>th</sup> May 2009 amended, on the carriage by land of dangerous goods called the "TMD order"
  - [2] European agreement concerning the international carriage of dangerous goods by road (ADR)
  - [3] Regulations governing the international carriage of dangerous goods by rail (RID)
  - [4] ASN letter CODEP-DTS-2015-020798, concerning the filling-out of orange-coloured plates for the transport of radioactive substances other than for exclusive use (available at address <https://www.asn.fr/Professionnels/Transport-substances-radioactives/Professionnels-du-transport-de-substances-radioactives/Les-courriers-de-l-ASN>)

Dear Sir or Madam,

The regulations applicable to the carriage of radioactive substances by road or rail stipulate that orange-coloured plates be affixed to road vehicles, their trailers, wagons and containers, in accordance with the procedures recalled below.

For the carriage of dangerous goods by road:

- shipments comprising only excepted packages are not required to comply with this obligation;
- vehicles and their trailers carrying radioactive substances must be fitted with orange-coloured plates (article 5.3.2.1.1 of the ADR);
- these orange-coloured plates shall bear the UN number and the hazard identification number (or the UN number only for small plates), if the shipment is under exclusive use and if the load carried consists of packages containing radioactive substances and corresponding to a single UN number (article 5.3.2.1.4 of the ADR);
- the orange-coloured plates shall also bear these numbers if the radioactive substances are carried in bulk or in a tank (articles 5.3.2.1.2 and 5.3.2.1.4 of the ADR);
- if the load being carried is radioactive and corresponds to a single UN number, the UN number and, as applicable, the hazard identification number, may be indicated on the orange-coloured plates for a domestic shipment (article 3.8 of Annex I of the TMD order);
- in the case of an international shipment of a load consisting of packages containing radioactive substances and corresponding to a single UN number, no provision prohibits the indication of the UN number and, as applicable, the hazard identification number on the orange-coloured plates. However, this possibility is not explicitly mentioned.

For the carriage of dangerous goods by rail:

- shipments comprising only excepted packages are not required to comply with this obligation;
- orange-coloured plates bearing the UN number and the hazard identification number are mandatory on wagons and containers if the shipment is under exclusive use and if the load consists of packages containing radioactive substances and corresponding to a single UN number (articles 5.3.2.1.1 and 5.3.2.1.2 4 of the RID);
- the presence of panels bearing these numbers is also mandatory if radioactive substances are carried in a tank, in a bulk container or in a bulk wagon (articles 5.3.2.1.1 and 5.3.2.1.2 of the RID);
- orange-coloured plates bearing the UN number and the hazard identification number may be affixed to the wagons and containers if the load carried consists of packages corresponding to a single UN number (articles 5.3.2.1.1 and 5.3.2.1.2 of the RID).

The regulations therefore systematically allow the presence of orange-coloured plates bearing the UN number on a transport unit if its content is radioactive and corresponds to a single UN number. Moreover, it requires this in certain cases.

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Articles 1.4.1.1 and 1.4.1.2 of the ADR and RID require that the participants in the carriage must take appropriate measures to limit damage in the event of an accident and provide the emergency services with all the information they require to take action.

In the event of an accident, the specific action to be taken by the emergency services to protect persons and mitigate the consequences depends on the type of radioactive substances concerned and their packaging. For example, the packages containing uranium hexafluoride must be cooled in the event of a fire; the population protection perimeters are not the same depending on whether the package involved is type A or B, etc. The UN number is a means of identifying the type of radioactive substances carried and the type of package.

Marking this UN number on the orange-coloured plates thus enables the emergency services to be rapidly provided with information extremely useful for their immediate action when the driver is unable to provide the information (for example if injured) and the transport documents are inaccessible (for example owing to a fire). This helps mitigate the damage caused by the accident. As mentioned in the letter in reference [4], I would therefore remind you that ASN recommends:

- for carriage by road, filling-out the UN number and, as applicable, the hazard identification number on all the orange-coloured plates of the transport unit if the load is radioactive and corresponds to a single UN number, whether or not carriage is under exclusive use;
- for carriage by rail, affixing the filled-out orange-coloured plates on the sides of the wagons carrying a radioactive load and corresponding to a single UN number, whether or not carriage is under exclusive use.

If this recommendation is not followed, alternative provisions, taking account of any safety constraints, shall be taken by the carrier or consignor in order to meet the obligations set out in articles 1.4.1.1 and 1.4.1.2 of the ADR or RID, in other words to ensure that the first emergency services reaching the site of the accident can rapidly identify the type of radioactive substances carried, including if the driver is unable to provide information and if the transport documents are inaccessible.

For example, the presence of an escort accompanying the conveyance carrying the radioactive substances is considered to be a pertinent alternative provision, provided that the members of the escort are informed of the type of radioactive substances carried and the corresponding UN numbers. Similarly, the existence of a conveyance real-time monitoring device may also be considered sufficient to meet this

objective, provided that said monitoring enables an accident to be detected and the emergency services to be rapidly alerted.

In the case of shipments of packages not subject to ASN approval, if it proves too impractical to use the filled-out orange-coloured plates (for example, in the case of a shipment during which the load is repeatedly modified), ASN recognises that given the limited potential consequences, using unmarked orange plates may be justified.

Finally, not filling out the hazard identification number and the UN number on the orange-coloured plates is justified if the use of filled-out orange-coloured plates runs contrary to the regulations (for example, in the case of shipments of excepted packages or in the case of shipment of a content corresponding to several UN numbers).

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In any case, ASN recalls that the use of filled-out orange-coloured plates or the adoption of alternative provisions does not obviate the need to implement a transport accident and incident management plan, as required by articles 1.4.1.1 and 1.4.1.2 of the ADR or RID, or of an organisation dedicated to the management of a major accident.

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Within the framework of the inspections it carries out, ASN will take account of the recommendations of this letter when it examines the provisions adopted for meeting the objectives defined in articles 1.4.1.1 and 1.4.1.2 of the ADR or the RID.

Yours sincerely,

**The Deputy Director-General,**

**Anne-Cécile RIGAIL**