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Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods****102nd session**

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Item 5 (b) of the provisional agenda

Proposals for amendments to annexes A and B of ADR:**Miscellaneous proposals****Proposal for a definition of carriage by private individuals
under 1.1.3.1 (a)****Transmitted by the Government of Switzerland****Summary*

- Executive summary:** Specify the scope of 1.1.3.1 (a). Interpret the second sentence of 1.1.3.1 (a). Establish quantity limits for all liquids and all gases.
- Action to be taken:** Amend the second sentence of 1.1.3.1 (a).
- Reference documents:** ECE/TRANS/WP.15/AC.1/2007/22/Rev.1, ECE/TRANS/WP.15/AC.1/108, ECE/TRANS/WP.15/226 and ECE/TRANS/WP.15/2014/10, ECE/TRANS/WP.15/2015/7, informal document INF.15 from the November 2015 meeting.

* In accordance with the programme of work of the Inland Transport Committee for 2016-2017, (ECE/TRANS/2016/28/Add.1 (9.2)).



Introduction

1. At the November 2014 meeting of the Working Party (WP.15), the question of the interpretation of the scope of 1.1.3.1 (a) was raised. The discussion is reflected in paragraphs 17 to 19 of the report under symbol ECE/TRANS/WP.15/226. These interpretation issues for 1.1.3.1 (a) were raised by a diving club, whose questions appear in document ECE/TRANS/WP.15/2014/10. The club carried out its own filling and testing of diving cylinders. The Working Party asked the representative of Switzerland to continue discussions on this subject in the Joint Meeting so that a harmonized approach could be adopted, if necessary. However, since the texts of RID and ADR do not coincide, and the issues raised are not likely to arise for rail transport, in November 2015 we presented a proposal to clarify the scope of 1.1.3.1 (a), taking into account the positions expressed by delegates at the November 2014 meeting. Given the lack of support from the delegations that spoke in November 2015, the proposal in document ECE/TRANS/WP.15/2015/7 was withdrawn (paras. 43 to 45 of report ECE/TRANS/WP.15/230).

2. In the light of the replies contained in the reports of the two WP.15 meetings mentioned above, the questions that were raised about the interpretation of 1.1.3.1 (a) have so far remained unanswered. As the interpretation of 1.1.3.1 (a) is still problematic, with the present document we would like to find out how the delegations in WP.15 interpret the following questions:

- (a) How to interpret the second sentence of 1.1.3.1 (a):
 - (i) Is the filling of refillable receptacles also exempted from the regulations if it is carried out by private individuals?
 - (ii) Can dangerous goods that are not packaged for retail sale be carried in accordance with the exemption under 1.1.3.1 (a)?
 - (iii) Can dangerous goods in refillable receptacles be considered to be packaged for retail?
- (b) What conditions must be met by non-refillable receptacles?
- (c) Is the exemption under 1.1.3.1 (a) applicable to refillable receptacles regardless of the dangerous goods they contain?

These questions are discussed below.

How to interpret the second sentence of 1.1.3.1 (a)?

3. The sentence reads as follows:

“When these goods are flammable liquids carried in refillable receptacles filled by, or for, a private individual, the total quantity shall not exceed 60 litres per receptacle and 240 litres per transport unit.”

This text first appeared in 2009. It was adopted by the Joint Meeting in response to a court interpretation that Sweden had presented to the Joint Meeting in November 2007, in document ECE/TRANS/WP.15/AC.1/2007/22/Rev.1. The court had ruled that the exemption was only applicable to the carriage of dangerous goods when they were already in their packaging at the moment of purchase. Thus, according to the ruling, it would be impossible for private individuals to refill their packagings themselves. As the expert from Sweden considered that private individuals should, for instance, be able to go to a filling station to purchase fuel for their boats in portable fuel containers and to carry out the filling themselves, his proposed amendment had been considered by the Joint Meeting. The interpretation to be given to these texts appears in paragraphs 87 and 88 of the report of the Joint Meeting (ECE/TRANS/WP.15/AC.1/108):

87. *The Joint Meeting considered that the concept of packaging for retail in 1.1.3.1 (a) also applied to reusable packages brought by private individuals for refilling, for example petrol cans filled at petrol pumps.*

88. *After lengthy discussion, and taking into account the specific problem posed by a contrary interpretation reached by a court in Sweden, the Joint Meeting adopted a compromise proposal put forward by the secretariat, under which, for reusable receptacles for the carriage of flammable liquids (of any class), the limit would be 60 litres per receptacle and 240 litres per transport unit (see annex II).*

4. The Swedish judges associated “packaged for retail sale” with the fact that the receptacle has not yet been opened and that the dangerous goods are still in the receptacle at the moment of purchase. The discussions held in the Joint Meeting at the time apparently contradicted the opinion of the Swedish judges, just as the Swedish delegation had itself proposed. However, the text that was eventually adopted and that now appears in the second sentence of 1.1.3.1 (a) apparently does not completely reflect the opinion of the Joint Meeting.

5. We believe the first question that needs to be answered is the following:

Is the filling of refillable receptacles also exempted from the regulations if it is carried out by private individuals?

6. Section 1.1.3.1 (a) is an exemption applicable only to transport. The filling itself, whether carried out with unrefillable or refillable containers, is not an activity exempted from regulation by 1.1.3.1 (a). Consequently, a person who fills a receptacle intended for transport, refillable or not, cannot be exempted from observance of the relevant provisions applicable to the product in the receptacle, whether or not it is refillable. If the receptacle is subject to ADR, the filling must meet the requirements of ADR. Furthermore, as the exemption under 1.1.3.1 (a) can only apply to dangerous goods “packaged for retail sale”, persons who fill receptacles are responsible for allowing into circulation only those receptacles that meet the safety requirements for the type of packaging in question. Consequently, whether they are filled by private individuals themselves or by specialized undertakings (such as distributors or shops, etc.), there is no reason to maintain that such refillable receptacles, once refilled, would differ from the safety standpoint from unrefillable ones, which also are packaged for retail sale. The condition that allows private individuals to benefit from the exemption is the fact that when a person closes a receptacle after refilling, the person who closes it, whether a private individual or a professional filler, must do so in such a way that the safety of the receptacle is equivalent to that of a receptacle intended for retail sale. That is the first condition for transport benefiting from the exemption under 1.1.3.1 (a).

7. WP.15 is requested to comment on the following statement and the reply to the question asked:

Filling is not exempted under the exemption under 1.1.3.1 (a). Refillable receptacles that are transported after filling must ensure the same safety conditions as any dangerous goods packaged for retail sale. They benefit from the same exemption conditions as unrefillable receptacles.

8. As a corollary to the above question, an answer is also required for the following question:

Can dangerous goods that are not packaged for retail sale be carried in accordance with the exemption under 1.1.3.1 (a)?

According to the wording of 1.1.3.1 (a), the answer is no. Only dangerous goods packaged for retail sale may benefit from the exemption.

9. The following question can be added to the above:

Can dangerous goods in refillable receptacles be considered to be packaged for retail?

10. The Swedish judges considered that the answer to this question was no, a position that was contradicted by the opinion of the Joint Meeting, expressed in paragraph 87 of the report cited above. The Joint Meeting nonetheless later considered it useful to add a clarification, which became the second sentence of 1.1.3.1 (a), mentioned above.

11. It is the wording of this sentence that is now hard to interpret if we do not take into consideration the background described above. If the sentence is read without this context, it may be interpreted in various ways. Here are two. It may be either:

- A limitation of the scope of the exemption, but only for refillable receptacles containing flammable liquids. This interpretation does not exclude the possibility of applying the exemption to refillable receptacles containing dangerous goods other than liquids, such as gases; or
- An extension of the scope of the exemption to refillable receptacles, but only to those containing flammable liquids. Such an interpretation makes the exemption inapplicable to other dangerous goods likely to be filled in refillable receptacles, such as gases.

12. We believe that neither of these interpretations was intended by the authors. As indicated clearly in paragraph 87 of the report, the authors considered that, on the contrary, dangerous goods contained in a refillable receptacle could perfectly well be considered as packaged for retail sale, even after the sale, if they were emptied and subsequently refilled in the refillable receptacle.

13. It could be considered that the authors saw no difference between a refillable receptacle and an unrefillable one. They wanted to emphasize this by specifying that refillable receptacles could also benefit from the exemption when they were refilled by, or for, private individuals.

14. We can thus answer the following question in the affirmative:

Dangerous goods in refillable receptacles can be considered to be packaged for retail.

What conditions must be met by non-refillable receptacles?

15. Unfortunately, the discussions held at the time were apparently influenced by an outside element, as it was feared that individuals might transport unlimited quantities of flammable liquids in receptacles that did not necessarily meet the requirements for packaging for retail sale.

16. As we have seen above, the fact that a receptacle is refillable should not enter into consideration to keep it from benefiting from the exemption. To benefit from the exemption, a receptacle, refillable or unrefillable, must meet the first requirement, that of being packaged for retail sale. The second sentence thus only has meaning in relation to the authorized quantity, and possibly the risk and the type of hazard (frequent carriage of flammable liquids). We believe that the fear of seeing private individuals carrying unlimited quantities of dangerous goods is justified, and the frequency of such practices explains why the restriction was included. However, the risk applies not only to refillable receptacles. The quantity limitation, solely applicable to flammable liquids, should be applicable regardless of the type of receptacle, whether or not it is refillable.

17. WP.15 must answer the question of whether the same dangerous substance contained in unrefillable cans exceeding 60 litres (for example 200 litres) bought in a store is authorized solely by virtue of the fact that the can is unrefillable, that it was purchased filled and that it is not a reused can that private individuals themselves bring for filling. We believe that the authors of paragraph 87 of the report clearly indicated that there was no difference between the two types of receptacles. Consequently, both types of receptacle, refillable and unrefillable, should be subject to the same requirements.

18. As for setting criteria to apply the exemption, we tried to introduce some based on quantities, in proposals 2 (a) and 2 (b) of document ECE/TRANS/WP.15/2015/7; however, it was not taken into consideration. Since the regulations already accept that refillable receptacles are sufficiently safe to benefit from the exemption within certain quantity limits, WP.15 should consider the possibility of extending this quantity limit to any other receptacles containing the same dangerous goods, regardless of whether they are refillable.

19. The proposal in the above paragraph is justified. As we explained above, filling is not in itself an activity that is exempted from regulation by 1.1.3.1 (a), which exempts only transport. Consequently, persons who fill refillable receptacles intended for transport must always ensure the safety level required for packaging for retail sale when they hand the receptacle over for transport.

20. There is thus no reason to differentiate between refillable and non-refillable receptacles, and the additional precautions contained in the second sentence of 1.1.3.1 (a) must be applicable to any flammable liquid, regardless of the type of packaging (refillable or not). It thus seems justified to apply the same limits for the same dangerous goods, for any type of receptacle packaged for retail sale.

21. In response to the question, WP.15 is requested to consider whether the following statement is appropriate:

Refillable receptacles must ensure the same level of safety as those that are not refillable. The safety level is defined by the term “packaged for retail sale”. Consequently, the same conditions and limitations are applicable to both types of packagings.

22. If the above is accepted, then the clarification contained in the second sentence of 1.1.3.1 (a) was introduced only to emphasize that the use of refillable receptacles was authorized. On the other hand, the limitations specific to flammable liquids should be applicable to any type of packaging, refillable or not.

Is the exemption under 1.1.3.1 (a) applicable to refillable receptacles regardless of the dangerous goods they contain?

23. The second sentence of 1.1.3.1 (a) would a priori indicate that the answer is no. Only flammable substances in refillable receptacles and within established quantity limits can benefit from the exemption under 1.1.3.1 (a).

24. We have already explained the origin and background of this sentence. The text does not say that it is admissible for refillable receptacles not to be considered as packaging for retail sale. For the same reasons cited under question (a) (iii), above, the sentence as worded apparently supports the position of the Swedish judges. If read without its background context, it merely extends the exemption of 1.1.3.1 (a) to flammable liquids, for which established quantity limits have been set. Other dangerous goods in refillable receptacles apparently cannot benefit from the exemption under 1.1.3.1 (a), as they cannot meet the packaging criteria for retail sales. Thus, the text would not exempt any type of refillable receptacle regardless of the dangerous substance it contains, but only if it contained a certain type of product, and in limited quantities.

25. Such an explanation, however, is not very coherent. Why would the authors have wanted to authorize the use of refillable receptacles only for the most dangerous and risky products, such as flammable liquids? A different, more rational reading of the text, which could be deduced from paragraph 87 of the report cited above, would be that the delegations, unlike the Swedish judge, considered it pointless to limit the scope of 1.1.3.1 (a) in the case of refillable receptacles, but that they considered that it was more prudent to limit quantities in the case of flammable liquids because of the dangers and risks they involved. The answer to the question should thus be as follows:

The exemption under 1.1.3.1 (a) is applicable also to refillable receptacles, regardless of the dangerous substances that they contain.

26. As the second sentence does not reflect this position, WP.15 is requested to clarify this point. We see various possible ways to do this:

(a) If the possibility of applying the exemption for refillable receptacles must be limited to flammable substances within the limits set by the second sentence of 1.1.3.1 (a) as currently worded, WP.15 should consider amending that sentence with proposal 1 (a);

(b) If the possibility of applying the exemption for refillable receptacles is not limited to flammable liquids, but such flammable liquids must specifically be the only substances for

which the limits must be observed, WP.15 should consider amending the second sentence of 1.1.3.1 (a) with proposal 1 (b);

(c) If the possibility of applying the exemption for refillable receptacles can be general, but limits are required only for flammable substances, regardless of whether they are flammable gases or liquids, WP.15 should consider amending the second sentence of 1.1.3.1 (a) with proposal 1 (c). That proposal takes into consideration the energy content mentioned in NOTE 1 to ADR 1.1.3.2 (a) for determining energy equivalents corresponding to 60 litres, or respectively 240 litres, of diesel fuel, while the proposed NOTE lists the fuels that already appear in NOTE 1 of ADR 1.1.3.2 (a) and provides, for each type of fuel, volume equivalents respectively for 60 litres or 240 litres of diesel fuel. The energy values and their calculations are described in document INF.15 of the November 2015 meeting of WP.15.

27. The question regarding the scope of 1.1.3.1 (a) was discussed at length during the November 2014 session, in relation with the carriage of diving tanks by a diving club (document ECE/WP.15/2014/10 and paras. 17-19 of the report under symbol ECE/TRANS/WP.15/226). Some delegations considered that the exemption was not applicable only to the vehicle driver and that all the members of a family could benefit from it; other delegations believed that it could apply only to a group traveling in the same vehicle, and others accepted the exemption in cases of transport on behalf of others. All these various interpretations could be eliminated if the criterion of quantities could be introduced, as proposed in paragraph 26 (c), above (proposal 1 (c)).

28. If the above premise is acceptable, then there is no reason to differentiate between refillable and non-refillable receptacles, and the additional precaution described in the second sentence of 1.1.3.1 (a) should apply to any flammable substance, regardless of the type of packaging or whether it is a gas or a liquid. It is thus justified to apply the same limits for the same dangerous substances, flammable or not, for all types of receptacles intended for retail sale. Implementation of 1.1.3.1 (a) by both private individuals and the road enforcement authorities would be facilitated, as the interpretation of the concept of transport by private individuals for their personal or domestic use and the determination of the extent to which a given kind of transport can or cannot be categorized as exempted would be harmonized and simplified. If such an approach is acceptable, proposal 2 will extend the scope of quantity limits to any liquids or gases, regardless of whether or not they are contained in refillable receptacles or whether they are flammable products. This wording also does away with the discussion of the question of filling.

Proposal 1 (a)

29. Amend the second sentence of 1.1.3.1 (a), as follows:

“Carriage by a private individual of refillable receptacles filled by, or for, a private individual shall also be subject to this exemption when such goods are flammable liquids and the total quantity does not exceed 60 litres per receptacle and 240 litres per transport unit.”

Justification

30. This wording also removes certain doubts about the scope of 1.1.3.1 (a). The sentence in question, which refers to “refillable receptacles filled by, or for, a private individual” may be interpreted as an exemption not for transport by private individuals, but also as an exemption during the filling, and by extension as an exemption for the tests, marking and approval that receptacles subject to ADR must meet in order to qualify for transport. The wording places the transport by a private individual at the centre of the exemption.

Proposal 1 (b)

31. Amend the second sentence of 1.1.3.1 (a), as follows:

“Carriage by a private individual of refillable receptacles filled by, or for, a private individual shall also be subject to this exemption. For flammable liquids, the total quantity carried with refillable receptacles shall not exceed 60 litres per receptacle and 240 litres per transport unit.”

Proposal 1 (c)

32. Amend the second sentence of 1.1.3.1 (a), as follows:

“Carriage by a private individual of refillable receptacles filled by, or for, a private individual shall also be subject to this exemption. In such cases, the total quantity shall not exceed 60 litres per receptacle and 240 litres per transport unit, and, for liquid or gas fuels, the total capacity of the tanks or cylinders shall not exceed the energy quantity (MJ) or the mass (kg) corresponding to the energy equivalent of 2 160 MJ per receptacle and 8 640 MJ per transport unit.”

NOTE: The value of 2 160 MJ for the energy equivalent per receptacle corresponds to the limit of 60 l for diesel fuel. The value of 8 640 MJ for the energy equivalent per transport unit corresponds to the limit of 240 l for diesel fuel. For the energy content of fuels and equivalent volumes, see the table, below:

Fuel	Energy content	Quantity in litres	
		Per receptacle	Per transport unit
Diesel fuel	36 MJ/litre	60 l	240 l
Petrol, gasoline or motor spirit	32 MJ/litre	67.5 l	270 l
Natural gas/biogas	35 MJ/Nm ³	61.7 l	43.2 kg
Liquefied petroleum gas (LPG)	24 MJ/litre	90 l	360 l
Ethanol	21 MJ/litre	102 l	411.4 l
Biodiesel	33 MJ/litre	65.5 l	261.8 l
Emulsion fuel	32 MJ/litre	67.5 l	270 l
Hydrogen	11 MJ/Nm ³	196.4 l	122.2 kg

Proposal 2

33. Amend the second sentence of 1.1.3.1 (a), as follows:

“For liquids and gases, the total quantity of dangerous goods shall not exceed 60 litres per receptacle and 240 litres per transport unit, and in the case of liquid or gas fuels, the total capacity of tanks or cylinders shall not exceed the amount of energy (MJ) or the mass (kg) corresponding to an energy equivalent of 2 160 MJ per receptacle and 8 640 MJ per transport unit.”

NOTE: The value of 2 160 MJ for the energy equivalent per receptacle corresponds to the limit of 60 l for diesel fuel. The value of 8 640 MJ for the energy equivalent per transport unit corresponds to the limit of 240 l for diesel fuel. For the energy content of fuels and equivalent volumes, see the table, below:

Fuel	Energy content	Quantity in litres	
		Per receptacle	Per transport unit
Diesel fuel	36 MJ/litre	60 l	240 l
Petrol, gasoline or motor spirit	32 MJ/litre	67.5 l	270 l
Natural gas/biogas	35 MJ/Nm ³	61.7 l	43.2 kg

<i>Fuel</i>	<i>Energy content</i>	<i>Quantity in litres</i>	
		<i>Per receptacle</i>	<i>Per transport unit</i>
Liquefied petroleum gas (LPG)	24 MJ/litre	90 l	360 l
Ethanol	21 MJ/litre	102 l	411.4 l
Biodiesel	33 MJ/litre	65.5 l	261.8 l
Emulsion fuel	32 MJ/litre	67.5 l	270 l
Hydrogen	11 MJ/Nm ³	196.4 l	122.2 kg

34. Calculation of the litres for most gases may be directly deduced from the examples on page 3 of document INF.15 from the November session. The calculation of the masses for natural gas and hydrogen is based on the following characteristics (see INF.15 from the November 2015 session of WP.15):

60 l diesel fuel means $60 \times 36 = 2\,160$ MJ

Energy content for natural gas 35.5 MJ/Nm³

For a density of 0.7 kg/Nm³, or $\frac{35.5 \text{ MJ/Nm}^3}{0.7 \text{ kg/Nm}^3} = 50$ MJ/kg

For natural gas: $\frac{2160 \text{ MJ}}{50 \text{ MJ/kg}} = 43.2$ kg

For hydrogen

Energy content 11 MJ/Nm³

For a density of 0.09 kg/Nm³, or $\frac{11 \text{ MJ/Nm}^3}{0.09 \text{ kg/Nm}^3} = 122.2$ kg