



**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Forty-ninth session**

Geneva, 27 June – 6 July 2016

Item 3 of the provisional agenda

Listing, classification and packing**Revision of packing instructions P621, IBC620, and LP621****Transmitted by the expert from Canada¹****Objective**

1. To modify packing instructions P621, IBC620 and LP621 to create consistency between the requirements of the three (3) authorized packing instructions (P621, IBC620 and LP621) for regulated medical waste, (bio) medical or clinical waste, unspecified, which are assigned to UN3291.

Introduction

2. The expert from Canada recommends harmonizing the requirements of packing instructions IBC620 and LP621 based on the requirements of packing instruction P621 to rectify their differences and facilitate their understanding. Some of the differences include:

- Packing instruction P621 contains two (2) lists of authorized packaging codes (one for solids, one for liquids);
- Packing instruction IBC620 stipulates that rigid and leakproof IBCs conforming to the performance level of the packing group II should be used; and

¹ In accordance with the programme of work of the Sub-Committee for 2015–2016 approved by the Committee at its seventh session (see ST/SG/AC.10/C.3/92, paragraph 95 and ST/SG/AC.10/42, para. 15).

- Packing instruction LP621 stipulates that rigid large packagings complying with the requirements of Chapter 6.6 must be used.
3. The expert also recommends clarifying certain requirements in packing instructions P621, IBC620 and LP621 that are either incorrect or difficult to interpret.
 4. In addition, the expert recommends modifying packing instruction LP621 to introduce construction and performance requirements for inner packagings contained in large packagings.

Context

Packing instruction P621

5. Packing instruction P621 is divided into two (2) parts: the first part includes a list of authorized packaging codes conforming to the packing group II performance level for solids and the second part includes a list of authorized packaging codes conforming to the packing group II performance level for liquids. This is a common packing instruction format for classes of dangerous goods that can be solid or liquid.
6. The second part of packing instruction P621 stipulates that in the case of packages containing "larger quantities of liquid", a packaging conforming to the packing group II performance level for liquids must be used. However, there is no indication provided in the instruction permitting someone to make the determination of what is considered to be "larger quantities of liquid".

Proposal

7. The expert proposes to clearly state that the packaging codes listed in the first part of the instruction can be used if no liquid is visible when filling the packaging while the packaging codes listed in the second part of the instruction must be used if liquid is visible when filling the packaging.
8. The expert also recommends removing two (2) codes from the list of authorized packaging codes in the second part of the instruction since these packagings (fiber drum (1G) and plywood drum (1D)) are not designed for liquids.
9. Following these changes, the packing instruction P621 would read as follows:

P621	PACKING INSTRUCTION	P621
This instruction applies to UN No. 3291.		
The following packagings are authorized, provided that the general provisions of 4.1.1 except 4.1.1.15 and 4.1.3 are met:		
1) Provided that there is sufficient absorbent material to absorb the entire amount of liquid present and the packaging is capable of retaining liquids: <u>If no liquid is visible when filling the packaging:</u>		
Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);		
Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2);		
Jerricans (3A2, 3B2, 3H2).		
Packagings shall conform to the packing group II performance level for solids. <u>If the presence of residual liquid in the packaging cannot be excluded, absorbent material in sufficient quantity to absorb all the liquid that may be present shall be used. Packagings shall be capable of retaining liquids.</u>		

2) ~~For packages containing larger quantities of liquid: If liquid is visible when filling the packaging:~~

Drums (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, ~~1D, 1G~~);

Jerricans (3A1, 3A2, 3B1, 3B2, 3H1, 3H2) ;

Composites (6HA1, 6HB1, 6HG1, 6HH1, 6HD1, 6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2, 6PA1, 6PB1, 6PG1, 6PD1, 6PH1, 6PH2, 6PA2, 6PB2, 6PC, 6PG2 or 6PD2).

Packagings shall conform to the packing group II performance level for liquids.

Additional requirement:

Packagings intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.1.

Packing instruction IBC620

10. The expert recommends removing the sentence "rigid, leakproof IBCs conforming to the performance level of PG II" and dividing the instruction into two parts as in packing instruction P621. In addition, by making this change, additional requirements 1 and 2 can be eliminated as these requirements will be included in the first part of the instruction pertaining to IBCs tested for solids.

11. The expert from Canada also proposes to amend additional requirement 3 to indicate that IBCs intended to contain sharp objects must be able to retain liquids under the performance test conditions in Chapter 6.5. This requirement is found in packing instructions P621 and LP621 but does not appear in packing instruction IBC620.

12. Following these changes, the packing instruction IBC620 would read as follows:

IBC620	PACKING INSTRUCTION	IBC620
This instruction applies to UN No. 3291.		
The following IBCs are authorized, provided that the general provisions of 4.1.1 except 4.1.1.15, 4.1.2 and 4.1.3 are met:		
Rigid, leakproof IBCs conforming to the packing group II performance level.		
1) If no liquid is visible when filling the IBC:		
 Metal (11A, 11B, 11N, 21A, 21B, 21N);		
 Rigid Plastics (11H1, 11H2, 21H1, 21H2);		
 Composite (11HZ1, 21HZ1);		
 Fiberboard (11G);		
 Wood (11C, 11D, 11F).		
The IBCs shall conform to the packing group II performance level for solids. If the presence of residual liquid in the IBC cannot be excluded, absorbent material in sufficient quantity to absorb all the liquid that may be present shall be used. IBCs shall be capable of retaining liquids.		
2) If liquid is visible when filling the IBC:		
 Metal (31A, 31B, 31N);		
 Rigid Plastics (31H1, 31H2);		
 Composite (31HZ1);		
IBC shall conform to the packing group II performance level for liquids.		

Additional requirements:

- ~~1. There shall be sufficient absorbent material to absorb the entire amount of liquid present in the IBC.~~
- ~~2. IBCs shall be capable of retaining liquids.~~
3. IBCs intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.5.

Packing instruction LP621

13. While the format of packing instruction LP621 resembles that of packing instruction P621, it does contain two (2) lists of authorized large packaging codes. The expert therefore recommends adding two (2) lists of authorized large packagings codes; one for large packagings tested for solids and one for large packagings tested for liquids.

14. Moreover, the same ambiguity found in the second part of instruction P621 exists in the second part of packing instruction LP621. Once again, there is no indication provided in instruction LP621 permitting someone to make the determination of what is considered to be a "large amount of liquid." The expert from Canada proposes to clearly state that packaging codes listed in the first part of the instruction can be used if no liquid is visible when filling the inner packagings, while the packaging codes listed in the second part of the instruction must be used if liquid is visible when filling in inner packagings.

15. The instruction does not specify which types of inner packagings can be used in the large packagings. The expert therefore proposes to require that rigid inner packagings be used if liquid is visible when filling the inner packagings and allow the use of rigid or flexible inner packagings when no liquid is visible when filling the inner packaging. For flexible inner packagings, the expert proposes to add construction and performance requirements based on requirements found in clause 4.3.2.4.2c on waste of Division 6.2 that may be transported in closed bulk containers (BK2). Authorized flexible inner packagings would be plastic bags meeting the following requirements:

- Leakproof and hermetically sealed such that the bags are capable of being maintained in an inverted position with the closed end facing downward during a period of 5 minutes without leakage;
- Made of plastic film having an impact resistance of at least 165g determined by ISO 7765-1988 "Film and sheeting - Determination of impact resistance by the free-falling dart method - Part 1: "Staircase methods";
- Made of plastic film having a tear resistance of at least 480g in both parallel and perpendicular planes with respect to the length of the bag determined by ISO 6383-2: 1983 "Plastics - film and sheeting - determination of tear resistance - Part 2: Elmendorf method "; and
- Having a maximum gross weight of 30kg

16. Following the changes, the LP621 packing instruction would read as follows:

LP621	PACKING INSTRUCTION	LP621
This instruction applies to UN No. 3291.		
<p>The following large packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>1) For clinical waste placed in inner packagings: <u>If no liquid is visible when filling the inner packagings – rigid or flexible^a inner packagings must be used and contained in one these large packagings:</u></p> <p><u>steel (50A) ;</u> <u>aluminium (50B) ;</u> <u>natural wood (50C) ;</u> <u>plywood (50D) ;</u> <u>reconstituted wood (50F) ;</u> <u>rigid fibreboard (50G) ;</u> <u>rigid plastics (50H) ;</u> <u>metal other than steel or aluminium (50N).</u></p> <p><u>The large packagings shall conform to the packing group II performance level for solids. If the presence of residual liquid in the large packaging cannot be excluded, absorbent material in sufficient quantity to absorb all the liquid that may be present shall be used. Large packagings shall be capable of retaining liquids.</u></p> <p><u>^a The flexible inner packagings must be hermetically sealed, leakproof plastic bags such that the bags are capable of being maintained in an inverted position with the closed end facing downward during a period of 5 minutes without leakage.</u></p> <p><u>The plastic film from which the bags are made must also have an impact resistance of at least 165g determined by ISO 7765-1988 " Plastics film and sheeting - Determination of impact resistance by the free-falling dart method - Part 1: " Staircase methods " and have a tear resistance of at least 480g in both parallel and perpendicular planes with respect to the length of the bag determined by ISO 6383-2 : 1983 " Plastics - film and sheeting - determination of tear resistance - Part 2: Elmendorf method ". The gross mass of a sealed bag must be equal or less than 30kg .</u></p> <p><u>Rigid, leakproof large packagings conforming to the requirements of Chapter 6.6 for solids, at the packing group II performance level, provided that there is sufficient absorbent material to absorb the entire amount of liquid present and the large packagings is capable of retaining liquids.</u></p> <p>2) For packages containing larger quantities of liquid: Large rigid packagins conforming to the requirements of Chapter 6.6, at the packing group II performance level, for liquids. If liquid is visible when filling the inner packagings rigid inner packagings must be used and contained in one these large packagings:</p> <p><u>steel (50A) ;</u> <u>aluminium (50B) ;</u> <u>rigid plastics (50H) ;</u> <u>metal other than steel or aluminium (50N).</u></p> <p><u>Large packagings shall conform to the packing group II performance level for liquids.</u></p>		
Additional requirement:		
Large packagings <u>and their inner packagings</u> intended to contain sharp objects such as broken glass and needles shall be resistant to puncture and retain liquids under the performance test conditions in Chapter 6.6.		