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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

Fifty-third session

Geneva, 25 June-4 July 2018
Item 3 of the provisional agenda
Listing, classification and packing

Classification and packaging for infectious waste of Category A

Transmitted by the expert from Canada*

Introduction

1. At the fifty-first session of the Sub-Committee, the experts from Canada and the United Kingdom presented a formal proposal (ST/SG/AC.10/C.3/2017/25) on the classification and packaging for infectious waste of Category A. The proposal included the creation of a new entry in the dangerous goods list for solid infectious waste of Category A with two new packing instructions assigned to it: one for the use of packagings and a second for the use of large packagings. The new UN number is not meant to be used for waste from bioresearch, other laboratory settings or for liquid waste but rather for solid waste generated from the medical treatment of affected humans or veterinary care of affected animals. With the two new packing instructions, ST/SG/AC.10/C.3/2017/25 proposed new safe and practical packaging requirements for Category A waste.

2. Packagings currently authorized in packing instruction P620 are suitable for transporting small volumes of infectious substances of Category A, such as cultures and specimens as well as small quantities of waste generated in laboratory settings. However, type P620 packagings are not adequate for transporting large volumes of Category A waste, such as the size and quantity generated during the 2014 Ebola outbreak. Also, packagings selected in accordance with packing instruction P620 must comply with the stringent provisions of Chapter 6.3. In ST/SG/AC.10/C.3/2017/25, the experts from Canada and the United Kingdom emphasized the importance of triple packagings; however, not all testing requirements referred to in Chapter 6.3 may be applicable or achievable when transporting large volumes of Category A solid waste. The response and control of outbreaks by public

* In accordance with the programme of work of the Sub-Committee for 2017–2018 approved by the Committee at its eighth session (see ST/SG/AC.10/C.3/100, paragraph 98 and ST/SG/AC.10/44, para. 14).

health authorities needs to be swift and efficient. It should not be unnecessarily hindered by onerous or technically complex collections and transport requirements.

3. The formal proposal, ST/SG/AC.10/C.3/2017/25 was discussed during the fifty-first session as well as during a lunch time working group. As a result, the working group presented informal document INF.43 (51st session), based on the discussions generated within the working group.

4. The Sub-Committee considered that the revised approach introduced in informal document INF.43 could provide suitable guidance to public health authorities in case of a crisis such as the 2014 Ebola outbreak. Therefore, they decided to adopt provisionally these provisions that were placed in square brackets to allow delegations to consult public health authorities on the proposed approach and to allow the opportunity for additional clarification within the current biennium.

5. Full consensus by the Sub-Committee could not be reached on the text elaborated in informal document INF.43 primarily with regards to additional requirements 8 and 9 in proposed packing instructions P6XX and LP6XX, which read as follows:

> "8. When outer packagings are not capable of retaining liquids either the inner packaging or the intermediate packaging shall be rigid."
>
> "9. Where the solid material is saturated and there is the possibility of liquid being released during transport only outer packagings capable of retaining liquids shall be used."

6. There is no correlation between the rigidity of a packaging and its capability of retaining liquids. For example, a fibreboard box is a rigid packaging but may or may not be able to retain liquids depending on its construction. The use of a water-resistant coating or liner may be necessary to achieve its function. Thus, it is the opinion of the expert from Canada that requiring the inner packaging or the intermediate packaging to be rigid if the outer packaging is not capable of retaining liquids does not increase the ability of the triple packaging to contain liquids.

7. Furthermore, with the proposed P6XX and LP6XX, the likelihood of having free liquid escaping the intermediate packaging is very minimal. The inner and intermediate packagings must be capable of retaining liquids and there must be sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. To reduce the possibility of liquid release to the greatest degree, the expert from Canada proposes that only outer packagings capable of retaining liquids be used in all circumstances. The expert also proposes removing additional requirement 8 of INF.43.

8. Outbreaks of these pathogens are rare, but when they occur they pose a significant risk to the health and well-being of humans and animals. Response to these outbreaks is not limited to sophisticated health facilities, and is often required in remote field operations of a basic nature. For some, making the determination if the outer packaging they want to use is capable of retaining liquids may not be an easy task. They may think that by using a fibreboard box with a water-resistant coating they are complying with additional requirement 9 proposed in informal document INF.43 but they may not be, based on the results of the fibreboard box moisture penetration test reported in the informal document INF.36 (51st session) submitted by the United Kingdom. As reported in informal document INF.36, any seams or joints that are not water-resistant should be taped on the inside and the outside of the box. However, this may not be realistic to do in the field.

9. This formal document proposes to remove the additional requirement 9 in informal document INF.43 (51st session). Except for plywood boxes, fibreboard boxes, plywood drums and fibre drums, all the other outer packagings listed in the two packing instructions

are capable of retaining liquid. To simplify the requirements, the expert from Canada proposes to add the following requirement:

> "Plywood boxes (4D), fibreboard boxes (4G), plywood drums (1D) and fibre drums (1G) shall be made capable of retaining liquids with the use of inner liners or bags. Intermediate packagings shall not perform this function."

10. The Addendum to the report of the Sub-Committee of Experts (ST/SG/AC.10/C.3/102/Add.1) on its fifty-first session shows that UN No. 3549 is assigned to these solid medical waste of Category A. Packing instructions P622 and LP622 were assigned to this UN number in the same report.

Proposal

11. This proposal refers to the amendments adopted by the Sub-Committee between square brackets at its fifty-first session, and listed in document ST/SG/AC.10/C.3/102/Add.1, Annex II. When applicable, changes to the amendments listed therein are shown in underlined text or ~~strikethrough~~ text.

Chapter 1.4

"1.4.3.1.2 In table 1.4.1, amend the line for Division 6.2 to read as follows:

"Division 6.2	Infectious substances of Category A (UN Nos. 2814 and 2900) and medical waste of Category A (UN 3549)".

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

Chapter 2.6

2.6.3.1.6 Amend to read as follows:

"Medical or clinical wastes are wastes derived from the veterinary treatment of animals, the medical treatment of humans or from bio-research."

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

2.6.3.2.1 Replace "or UN 3373" by ", UN 3373 or UN 3549".

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

2.6.3.2.3.9 (a) In the parenthesis, after "UN 3291" add "and UN 3549".

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

2.6.3.5.1 Amend to read as follows:

2.6.3.5.1 Medical or clinical waste containing:

(a) Category A infectious substances shall be assigned to UN 2814, UN 2900 or UN 3549 as appropriate. Solid medical waste containing Category A infectious substances generated from the medical treatment of humans or veterinary treatment of animals may be assigned to UN 3549. The UN 3549 entry shall not be used for waste from bio-research or liquid waste;

(b) Category B infectious substances shall be assigned to UN 3291."

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

Chapter 3.2

Dangerous goods list

Insert the following new entry:

(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid or MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid	6.2		-	~~318~~ XXX	0	E0	P622 LP622			

Justification: Special provision 318 is deleted, as UN 3549 is not assigned to a generic or "not otherwise specified" proper shipping name. Also, having the technical name included in the documentation would not have an impact on the response provided by first responders.

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, as amended)

Chapter 3.3

Add a new special provision "XXX" (only applicable to UN 3549) to read as follows:

"XXX This entry shall only be used for solid medical waste of Category A transported for disposal."

Appendices

In the table, for Division 6.2, under "Specific entries", add the following new entries:

6.2		3549	MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid
6.2		3549	MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

Alphabetical index

Add the following new entries in alphabetical order:

MEDICAL WASTE, CATEGORY A, AFFECTING HUMANS, solid	6.2	3549
MEDICAL WASTE, CATEGORY A, AFFECTING ANIMALS only, solid	6.2	3549

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

Chapter 4.1

4.1.1 In the note, replace “as indicated in 4.1.8.2 (Division 6.2)” by “as indicated in (Division 6.2, UN 2814 and UN 2900)”. Amend the end of the sentence to read “(P201 and LP02 for Class 2 and P620, P621, P622, IBC620, LP621 and LP622 for Division 6.2)”.

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

4.1.4.1 Add the following new packing instruction P622:

<table>
<tr><td colspan="2">P622</td><td>PACKING INSTRUCTION</td><td>P622</td></tr>
<tr><td colspan="4">This instruction applies ~~to solid medical or clinical waste assigned~~ to UN 3549 ~~transported for disposal~~.</td></tr>
<tr><td colspan="4">The following packagings are authorized provided the general provisions of 4.1.1 and 4.1.3 are met:</td></tr>
<tr><td>Inner packagings</td><td>Intermediate packagings</td><td colspan="2">Outer packagings</td></tr>
<tr><td>metal
plastics</td><td>metal
plastics</td><td colspan="2">Boxes
steel (4A)
aluminium (4B)
plywood (4D)
fibreboard (4G)
other metal (4N)
plastics, solid (4H2)
Drums
steel (1A2)
aluminium (1B2)
plywood (1D)
fibre (1G)
other metal (1N2)
plastics (1H2)
Jerricans
steel (3A2)
aluminium (3B2)
plastics (3H2)</td></tr>
<tr><td colspan="4">The packaging shall conform to the packing group I performance level for solids.</td></tr>
<tr><td colspan="4">Additional requirements:
1. Fragile articles shall be contained in either a rigid inner packaging or rigid intermediate packagings.
2. Inner packagings containing sharps objects such as broken glass and needles shall be rigid and resistant to puncture.
3. The inner packaging and the intermediate packaging shall be capable of retaining liquids.
~~5.~~4. The inner packaging and/or the intermediate packaging may be flexible. When flexible packagings are used, they shall be capable of passing the ~~tests for tear and~~ impact resistance test to at least 165 g according to ISO 7765-1:1988 “Plastics film and sheeting – Determination of impact resistance by the free-falling dart method – Part 1: Staircase methods” and the tear resistance test to at least 480 g in both parallel and perpendicular planes with respect to the length of the bag in accordance with ISO 6383-2:1983 “Plastics – Film and sheeting – Determination of tear resistance – Part 2: Elmendorf method”. ~~Each bag shall have an impact resistance of at least 165g and a tear resistance of at least 480g in both parallel and perpendicular planes with respect to the length of the bag.~~ The maximum net mass of each flexible inner packaging ~~plastic bag~~ shall be 30kg.
~~6.~~5. Each flexible intermediate packaging shall contain only one inner packaging.
~~7.~~6. Inner packagings containing a small amount of free liquid may be included in intermediate packaging provided that there is sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. Suitable absorbent material which may withstand the temperatures and vibrations liable to occur under normal conditions of transport shall be used.</td></tr>
</table>

7. Plywood box (4D), fibreboard box (4G), plywood drum (1D) and fibre drum (1G) outer packagings shall be made capable of retaining liquids with the use of inner liners or bags. Intermediate packagings shall not perform this function.
~~8. When outer packagings are not capable of retaining liquids either the inner packaging or the intermediate packaging shall be rigid.~~
~~9. Where the solid material is saturated and there is the possibility of liquid being released during transport only outer packagings capable of retaining liquids shall be used.~~

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, as amended)

4.1.4.3 Add the following new packing instruction LP622:

LP622	**PACKING INSTRUCTION**	**LP 622**
This instruction applies ~~to solid medical or clinical waste assigned~~ to UN 3549 ~~transported for disposal~~.		
The following packagings are authorized provided the general provisions of **4.1.1** and **4.1.3** are met:		
Inner packagings	**Intermediate packagings**	**Outer packagings**
metal plastics	metal plastics	steel (50A) aluminium (50B) plywood (50D) fibreboard (50G) other metal (50N) plastics (50H)
The packaging shall conform to the packing group I performance level for solids.		
Additional requirement:		
1. Fragile articles shall be contained in either a rigid inner packaging or a rigid intermediate packagings. 2. Inner packagings containing sharps objects such as broken glass and needles shall be rigid and resistant to puncture. 3. The inner packaging and the intermediate packaging shall be capable of retaining liquids. 4. The inner packaging and/or the intermediate packaging may be flexible. When flexible packagings are used, they shall be capable of passing the ~~tests for tear and~~ impact resistance test to at least 165g according to ISO 7765-1:1988 "Plastics film and sheeting – Determination of impact resistance by the free-falling dart method – Part 1: Staircase methods" and the tear resistance test to at least 480g in both parallel and perpendicular planes with respect to the length of the bag in accordance with ISO 6383-2:1983 "Plastics – Film and sheeting – Determination of tear resistance – Part 2: Elmendorf method". ~~Each bag shall have an impact resistance of at least 165g and a tear resistance of at least 480g in both parallel and perpendicular planes with respect to the length of the bag.~~ The maximum net mass of each flexible inner packaging ~~plastic bag~~ shall be 30kg. 5. Each flexible intermediate packaging shall contain only one inner packaging. 6. Inner packagings containing a small amount of free liquid may be included in intermediate packaging provided that there is sufficient absorbent or solidifying material in the inner or intermediate packaging to absorb or solidify all the liquid content present. Suitable absorbent material which may withstand the temperatures and vibrations liable to occur under normal conditions of transport shall be used. 7. Plywood large packagings (50D) and fibreboard large packagings (50G) outer packagings shall be made capable of retaining liquids with the use of inner liners or bags. Intermediate packagings shall not perform this function. ~~7. When outer packagings are not capable of retaining liquids either the inner packaging or the intermediate packaging shall be rigid.~~ ~~8. Where the solid material is saturated and there is the possibility of liquid being released during transport only outer packagings capable of retaining liquids shall be used.~~		

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, as amended)

Chapter 6.1

6.1.1.1 (e) At the end, add "except for UN 3549".

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)

Chapter 6.3

In the title of Chapter 6.3, at the end, add “(UN 2814 and UN 2900)”.

6.3.1.1 At the end, add “, UN 2814 and UN 2900”.

(Reference document: Proposal in ST/SG/AC.10/C.3/102/Add.1, Annex II, unchanged)