

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

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Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods: packagings

Packing Instructions P620 and P650 for Division 6.2 Infectious Substances

Transmitted by the expert from Norway

Reference Document: ST/SG/AC.10/C.3/2015/15

Background

1. Packing instructions P620 and P650 apply to the packaging of Division 6.2 infectious substances. Transport of Category A substances (UN 2814 and UN 2900) requires packaging according to P620, whilst Category B substances (UN 3373) are exempt from all other regulations in the Recommendations on the Transport of Dangerous Goods – Model Regulations when packed and marked according to P650.
2. Following the epidemic outbreak of Ebola in West Africa in 2014, multilateral agreement M281 was initiated and proposed by Belgium. M281 relates to the packaging of waste contaminated with, or suspected of having been contaminated with, a virus causing haemorrhagic fever such as Ebola. Packagings approved for UN 2814 available at the time of the outbreak were too small and impractical for the large amount of waste that could be generated from treating patients infected with the virus.
3. Norway did not sign the multilateral agreement and initiated a process of having larger packagings for category A substances approved. Test requirements are described in Chapter 6.3, but some additional requirements are given in the packing instructions. Additional requirement 3. of P620 stipulates: *“Whatever the intended temperature of the consignment, the primary receptacle or the secondary packaging shall be capable of withstanding without leakage an internal pressure producing a pressure differential of not less than 95 kPa and temperatures in the range -40 °C to +55 °C.”*
4. Requirement (7) (a) of P650 for category B substances gives the following condition regarding pressure only: *“The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of not less than 95kPa (0.95 bar).”* In addition to this, the completed package shall be capable of passing a drop test at a height of 1.2 m.
5. The additional requirements do not specify the time period for which the primary receptacle or the secondary packaging is required to withstand the internal pressure producing a pressure differential of not less than 95 kPa. For P620, it is not clear, whether the requirements relating to the pressure differential and to the temperature range are

connected, or if they should be considered as requirements completely independent to each other.

6. The Technical Instructions for the Safe Transport of Dangerous Goods by Air is more specific than the Model Regulations on this area, and has two additional notes relating to the pressure differentials in packing instructions PI620 and PI650. The notes suggests a few suitable test methods, one of which is the hydraulic test method (described in Chapter 6.1.5.5): *“The capability of a packaging to withstand an internal pressure without leakage that produces the specified pressure differential should be determined by testing samples of primary receptacles or secondary packagings. (...) The appropriate test method should be selected based on receptacle or packaging type. Acceptable test methods include any method that produces the required pressure differential between the inside and outside of a primary receptacle or a secondary packaging. The test may be conducted using internal hydraulic or pneumatic pressure (gauge) or external test methods. (...)”*

7. The hydraulic test method requires plastic receptacles to withstand the pressure for 30 minutes, however; it does not specify a temperature range for the receptacle or the contents, as the expert from Germany also points out in document **ST/SG/AC.10/C.3/2015/15**.

8. Part 4 of the Model Regulations contains the provisions relating to the use of packagings and tanks, whilst Part 6 sets the actual requirements for construction and testing. Hence the delegations from Norway consider the requirements given in P620 more appropriate for Chapter 6.3 (*Requirements for the Construction and Testing of Packages for Division 6.2 Infectious Substances of Category A*), along with the other test requirements for this type of packaging. As transport of category B substances is exempted from the Regulations when materials are packed and labelled according to P650, we would suggest to add some further specifications with regards to the pressure differential requirement, and whether tests need to be documented or not.

Discussion

9. Should the requirements specified in packing instruction P620 rather be included in Chapter 6.3 along with the other test requirements for Division 6.2 infectious substances?

10. Should the requirements set for temperature differences and pressure differentials be considered in connection to each other or separately?

11. For packaging according to P650, is it necessary to document that the completed package has passed a drop test of 1.2 m, and that the receptacle or packaging is capable of withstanding an internal pressure of minimum 95kPa? If yes, which criteria apply?

12. Are the requirements relating to pressure differentials (in particular) and temperature differences in the packing instructions primarily relevant to air transport, and should their inclusion in ADR/RID be reconsidered?
