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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

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Item 6 of the provisional agenda

**MISCELLANEOUS PROPOSALS OF AMENDMENTS TO THE MODEL REGULATIONS
ON THE TRANSPORT OF DANGEROUS GOODS**

Portable tanks for Packing Group I solids

Transmitted by the expert from the United States of America

Background

1. The rationalized approach for assigning portable tank instructions to entries in the Dangerous Goods List of Chapter 3.2, as found in Part II of Section 3 of the "Guiding Principles" adopted during the last biennium (see ST/SG/AC.10/C.3/2006/86 and ST/SG/AC.10/C.3/60, paras. 96-98), provides that Portable Tank Instruction "T9" be assigned to Division 4.3 solids of Packing Group I and that Instruction "T21" be assigned to Division 4.2 solids of Packing Group I. The requirements for Packing Instructions T9 and T21, as prescribed in 4.2.5.2.6, indicate that bottom openings are "Not allowed" on portable tanks. Consequently, Division 4.2, Packing Group I solids such as UN 3391 (Organometallic substance, solid, pyrophoric) and UN 3393 (Organometallic substance, solid, pyrophoric, water-reactive), and Division 4.3, Packing Group I solids such as UN 3395 (Organometallic substance, solid, water-reactive) to which Portable Tank Instruction T9 or T21 are currently assigned, may only be transported in portable tanks without bottom openings.

2. For many Packing Group I solids in Division 4.2 and Division 4.3, transport in portable tanks without bottom openings is impracticable because it is virtually impossible to unload the substance from the portable tank through top openings. In this regard, it is noted that for all other solid substances authorized for transport in portable tanks, use of portable tanks with bottom outlets conforming to the requirements of 6.7.2.6.2 is permitted. This is considered to reflect the practical reality that many solid substances cannot be discharged from portable tanks through top openings.

3. When considering transport of Packing Group I solids in portable tanks, there appears to be no compelling safety reason to discourage the use of suitable portable tanks for such substances. For example, Division 4.2, Packing Group I solids (e.g. UN 3391 and UN 3393) are authorized for transport in packagings indicated in Packing Instruction P404 - including 1A2 removable head steel drums. Clearly, a portable tank conforming in all respects with the requirements of Portable Tank Instruction T21 (e.g., 10 bar test, 10 mm minimum thickness, “normal” pressure relief devices) except that a bottom outlet conforming to 6.7.2.6.2 is fitted, would afford a level of safety in transport substantially higher than that afforded by many of the packagings permitted under Packing Instruction P404.

4. In light of the foregoing, the expert from the United States believes that the Model Regulation should be revised to authorize portable tanks with bottom outlets conforming to 6.7.2.6.2 to be used for the transport of all solids (including those Packing Group I solids to which Portable Tank Instruction T9 or T21 are assigned). While this could be accomplished by adding new portable tank instructions, such additions would necessitate the renumbering of the subsequent tank instructions and also require numerous changes to portable tank assignments in the Dangerous Goods List and to the portable tank instruction “hierarchy” in 4.2.5.2.5. A simpler approach would be to add a new footnote to the table of Portable Tank Instructions in 4.2.5.2.6 to clarify that the bottom outlet “prohibition” applies only to portable tanks transporting liquid dangerous goods. This would be consistent with the current text of 6.7.2.6.1, which states that when the relevant portable tank instruction in 4.2.5.2.6 indicates that bottom outlets are prohibited, “there shall be no openings below the *liquid* level of the shell when it is filled to its maximum permissible filling limit” (emphasis added).

Proposal

5. In light of the foregoing, it is proposed that in the list of portable tank instructions in 4.2.5.2.6, a new footnote “b” be indicated against the words “**Bottom opening requirements**” in the heading of last column, and that the text of a new footnote “b” be added following existing footnote “a” at the end of the listing to read:

“b When this column indicates “not allowed”, bottom outlets are not permitted when the substance to be transported is a liquid (see 6.7.2.6.1). When the substance to be transported is a solid at all temperatures encountered under normal conditions of transport, bottom outlets conforming to the requirements of 6.7.2.6.2 are authorized.”
