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Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods

Bern, 22-26 March 2010

Item 5 (b) of the provisional agenda

PROPOSALS FOR AMENDMENTS TO RID/ADR/ADN

New proposals

Transport of ammonia solution in Intermediate Bulk Containers

Transmitted by the Government of the United Kingdom^{1,2}

1. The United Kingdom produced informal document INF.15 on this subject for the September 2009 Joint Meeting but there was insufficient time to discuss it. This working document therefore reproduces below the contents of the informal document.

¹ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.7 (c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2010/24.

Summary

Executive summary:	At the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods in March 2009, the Government of Portugal raised the issue of the carriage of ammonia solution (UN 2672) in rigid and composite plastics IBCs, which have been the subject of several Multilateral Agreements since the year 2000. Portugal declined to sign the United Kingdom's multilateral agreement permitting 'up to but not more than 35% ammonia solution' in certain IBCs because of concerns about excessive vapour pressure. Portugal sought a lower percentage. This paper proposes new text that permits the carriage of higher concentration ammonia solutions subject to additional safety measures.
Action to be taken:	To consider various options for new special packing provisions to transport UN 2672 ammonia solutions of concentrations between 20% and 35% in certain IBCs pending submission of a formal proposal for the next session.
Related documents:	Informal document INF.34 (Portugal) from the March 09 session.

Background and Justification

2. In its informal document INF.34 of March 2009, Portugal referred to ADR provision 4.1.4.2 in the section on IBC packing instructions concerning the use of IBCs and further informed the Joint Meeting that solutions of ammonia in excess of 20% do not comply with 4.1.4.2.

3. In 1999, Norway and Sweden jointly proposed to the UN Sub-Committee of Experts on the Transport of Dangerous Goods that the special nature of ammonia (i.e. a PG III substance with a very high vapour pressure) should have special recognition to permit its carriage in IBCs. This was reflected in special packing provision B11 of Packing Instruction IBC03 in the UN Model Regulations which states:

“B11 Notwithstanding the provisions of 4.1.1.10, UN 2672 ammonia solution in concentrations not exceeding 25% may be transported in rigid or composite plastics IBCs (31H1, 31H2 and 31HZ1).”.

It should also be noted that this provision has been adopted by the IMO in the IMDG Code.

4. It was because the Joint Meeting did not agree to incorporate this special packing provision into RID/ADR at that time that first Sweden (in its Multilateral Agreement M98) and then the United Kingdom (in its Multilateral Agreement M 138) took steps to permit such carriage between their countries and other Contracting Parties. The United Kingdom went further

by proposing that the ammonia solution concentration permitted in IBCs could be increased to 35%. The United Kingdom chemical industry has been supplying concentrations of ammonia solutions in the range 20% to 35% in IBCs in domestic transport for over 30 years without any evidence of an incident. However, aware of the possible effect of higher temperatures in developing increased pressures, additional requirements apply to such carriage. The method used in the United Kingdom to ensure that, in the unlikely event that excessive pressures are generated, safety is not compromised, is to utilise a “pressure relief” vent in the headspace of the IBC, to allow over pressure to be relieved to atmosphere. The transport of these IBCs is also then limited to open or curtain-sided vehicles.

5. Sub-Section 4.1.1.8 allows packages, including IBCs, to be fitted with a vent where pressure may develop by the emission of gas from the contents. It also requires that the gas emitted will not cause danger on account of its toxicity, flammability or quantity released. From assessments carried out in the United Kingdom, it has been concluded that the ammonia solution satisfies the requirement of 4.1.1.8.

6. The application of such provisions in United Kingdom national transport is also permitted in the context of the EU Framework Directives on the safe transport of dangerous goods through recognition of regional climatic variations.

7. In order to address the anomaly pointed out by Portugal and to permit what the United Kingdom and others consider to be a perfectly safe transport operation, the United Kingdom now proposes a number of options, below, for the Joint Meeting to consider. Depending on the outcome of discussion, the United Kingdom will submit a formal proposal for adoption by the next session of the Joint Meeting.

Proposal 1

8. In the interests of multimodal harmonization, add a special packing provision B11 to Packing Instruction IBC03 for inclusion in RID/ADR/ADN to cover concentrations of ammonia solutions up to and including 25%:

“**B11** Notwithstanding the provisions of 4.1.1.10, UN 2672 ammonia solution in concentrations not exceeding 25% may be carried in rigid or composite plastics IBCs (31H1, 31H2 and 31HZ1).”.

Add “B11” in column (9a) against UN 2672 in Table A of Chapter 3.2.

Proposal 2

9. The United Kingdom would propose to the Working Party on the Transport of Dangerous Goods (WP.15) the following further texts for ADR to deal with the carriage by road of higher strength solutions, since this is current practice. If there is a consensus that carriage by rail or inland waterway should also be included, this text can be adapted at the Joint Meeting for inclusion in RID/ADR/ADN.

Add a new special packing provision BBXX to IBC03 to read as follows:

“**BBXX** Notwithstanding the provisions of 4.1.1.10, UN 2672 ammonia solution in concentrations between 25% and up to 35% may be carried in rigid or composite plastics IBCs (31H1, 31H2 and 31HZ1) provided they are vented in accordance with 4.1.1.8.”.

Add “BBXX” in column (9a) against UN 2672 in Table A of Chapter 3.2; and

Proposal 3

10. If restricted to road transport, add a new special provision V to 7.2.4 as follows:

“**V** IBCs subject to special packing provision BBXX shall be carried in open or sheeted vehicles, vehicles with fabric sides or tops, or open or sheeted containers.”.

Add “V” in column (16) against UN 2672 in Table A of Chapter 3.2.
