

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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TRANSPORT OF EXPLOSIVES

Test Series 8 – Test results from modified Test 8(b)

Submitted by the expert from the United Kingdom

Introduction

At the last meeting of the explosives working group, the expert from the United Kingdom said that he would be carrying out tests on ANE candidate substances to establish whether an alternative UN test could be used in place of the current ANE Gap test (Test 8(b)).

Discussion

The United Kingdom has carried out tests on ammonium nitrate emulsions and suspensions conforming to Special Provision 309 using the UN gap test (Test A.5).

Both the AN emulsion and suspension candidate substances passed the test with the steel tube being largely unaffected by the test. The test was repeated with the gap created by the Perspex block removed. Again, both the AN emulsion and suspension substances failed to propagate the detonation.

The expert from the United Kingdom recommends that the current Test 8(b) is retained unchanged.

Test 8(d)

The United Kingdom has concerns about the Modified Vented Pipe test (MVPT) as it does not appear to offer any useful information on whether the ANE candidate substance can be shipped in tanks. The tests carried out over the past 5 years by Scandinavian, Australian and Spanish researchers have shown that the majority of the substance under test is ejected (emulsions), or foams (suspensions), out of the vent and the explosion or deflagration at the conclusion of the test involves a fraction of the starting material.

The expert from the United Kingdom notes that the only test on a tank containing UN 3375 substance was carried out at Kuosanen in 2002 using an aluminium tank container. He suggests that rather than retain Test 8(d) the criteria for transport in tanks should be restricted to aluminium tanks with a proviso that grandfather rights are granted for existing tanks.

If Test 8(d) MVPT is retained, then the expert from the United Kingdom proposes the wording of the final paragraph of SP309 remains unchanged.
