

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 2 of the provisional agenda

Explosives and related matters

On the use of the minimum burning pressure test as an alternative Series 8 Test

Transmitted by the expert from Spain

Introduction

1. The expert from Canada has presented the INF.41, proposing:
“The Working Group to consider the potential merit of including the MBP test as an alternative to the current 8 (d) test. For example, as an alternative to the 8 (d) test, UN 3375 could be restricted to those products with MBP values above 5.6 MPa (800 psig).”
2. The expert from Spain does not consider this proposal as appropriate

Background

3. For more than seven years, the experts of the Sub-Committee of Transport of Dangerous Goods have submitted and have worked in a huge number of INF's and working documents in relation to the classification, transport approval in portable tanks and tests of “ANEs”; this included the establishment and development of the 8 test series. All this 7 year process was carried out following a very meticulous methodology, full of analysis, tests and deliberations .
4. Such effort of the experts of the Sub-Committee of Transport of Dangerous Goods had a comprehensive result: the creation of a new entry (ONU 3375), the establishment of the special provision SP 309 and the inclusion in the Manual of Test and Criteria of a new test series 8.
5. The Series 8 Test consists of 4 tests:
 - 8 (a), 8 (b) y 8 (c), for the classification of ANEs -with formulations within the SP 309 parameters- as UN 3375
 - 8 (d) test, both, (i) -VPT- and (ii) -MVPT-, which are not for classification, but to state if an ANEs is suitable, or not, for its transport in portable tanks.

6. The technical rigor and validity of the abovementioned approach and tests is undeniable, and there is not any technical evidence about any dissatisfaction with the current series 8 tests for ANEs, with the exception of the Koenen test (8 c) because “the orifice often becomes blocked with sample during testing”, as it is said in the INF 41.

7. Nevertheless, what is true is that the test 8 d) involves a significant amount of product which may involve practical problems to carry it out; these practical problems refer only exclusively to the need of having adequate field testing facilities. But, on the other hand, It is also true that the 8 d) tests reproduce in a very reliable way the conditions during a fire, which is obviously the objective pursued by the test.

8. From this exposed point of view it is reasonable to pursue the objective of having an alternative test easier to carry out when or where the 8 d) tests are impossible to do, it being important to emphasize that the current 8 d) tests must be always the recommended ones. However, that been said, the alternative test must fulfill two logical premises:

- Its results must be in correlation with the ones resulting from the present 8 d tests.
- It must be reproducible and discriminatory.

Considerations

9. The proposal of the INF 41 is unclear and, overall, inadequate:

- Due to its own approach, the MBP test is not an adequate test neither for ANEs classification below UN 3375 nor for its transport approval in portable tanks. The MBP test allows the risk which may occur during a pumping operation to be evaluated if a hot spot appears in the pump.

Consequently, the MBP can not be considered as an adequate test to evaluate the risk should a fire happen during transportation; this affirmation is even implied in the point 21 of the INF 41.

- As aforementioned in relation to the correlation between the tests, the INF 41 does not give any information and / or dates which allow it or, at least, a comparison with the test results of typical compositions of ANEs.

Proposal

10. To decline the MBP test as an alternative test in the 8 (d) test, at least while the correlation is still being tested and verified.

11. To continue working on a reliable and suitable alternative to the 8 (d) test, easier to carry out, reproducible and whose results are correlated with the present ones of the 8 (d) test.
