

**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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Agenda item 2)**

TRANSPORT OF GASES

Alternative Leakproofness tests for aerosols

Transmitted by the European Aerosol Federation (FEA)

Background

FEA presented information papers in April 1998 (ST/SG/AC.10/C.3/1998/15) and in April 1999 (ST/SG/AC.10/C.3/1999/23) concerning alternative tests for aerosols other than the water bath. With this information paper FEA would like to inform the sub-committee about the current status of our continuing work on this issue.

The water bath has been a successful safety measure for more than 40 years. However FEA recognises that alternative methods are developing which some manufacturers may wish to use.

Water Bath testing ensures two important parameters of the aerosol's safety. It tests for leakage in the finished can as well as for any weakness which could potentially cause the can to burst at temperatures of up to 50°C. Any alternative must maintain these requirements and must offer at least the same level of safety as the Water Bath.

Current status

As reported in the last information paper on this issue, FEA has compiled a dossier that identified the critical areas of the manufacturing process.

We concluded that one alternative approach is to test cans and components during manufacture, to check the filling process and to submit the filled aerosols to micro leak detection. Our conclusions were evaluated by an independent expert who endorsed the approach but recommended that it should be validated by comparative testing.

Following this recommendation, FEA organised a validation trial in which the performance of the water bath and an alternative method have been directly compared by an independent auditor for a period of about one year. This trial will be finalised by the middle of this year, when more than 10 million aerosol cans will have been tested on the same filling line both by an alternative testing system and then by a water bath. The independent auditor carried out several audits during the trial, monitored trial documentation and results and reported back to FEA on the performance of the trial.

The current status of the trial indicates that the auditor will give a positive validation report at the conclusion and confirm that both methods offer the same level of safety. FEA intends to prepare a proposal on this issue for the next meeting. This will explain how an alternative system to the water bath can be validated and use the current trial as a detailed example of how this was done.

Another paper (ST/SG/AC.10/C.3/2003/6) on safety testing of aerosols have been submitted for this meeting because, for pharmaceutical aerosols, the hot water bath cannot be used as it will destroy the products. With this paper adequate solutions have been suggested for this kind of aerosol products taking into account their characteristics.

Whilst this paper proposes solutions for a very limited number of special products, the above mentioned validation study will provide criteria for an alternative test system which could be used for any aerosol product. The alternative test method would not replace the established water bath test but would offer an option that some manufacturers may wish to use.
