

**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

Thirtieth session
Geneva, 4-12 (a.m.) December 2006
Item 10 of the provisional agenda

ANY OTHER BUSINESS

Application for consultative status by the International Organization of Aluminium Aerosol Container
Manufacturers (AEROBAL)

1. The secretariat reproduces below information received from the International Organisation of Aluminium Aerosol Container Manufacturers (AEROBAL) requesting consultative status as a non-governmental organization for participation on the work of the Sub-Committee of Experts on the Transport of Dangerous Goods.
2. The Sub-Committee is invited to decide whether AEROBAL may participate in its work with a consultative status.

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Organisational status, governing bodies, members, geographical distribution

Organisational status:

AEROBAL is a non-registered international organisation. It is a non-profit organisation. The office is located in Düsseldorf (Germany). Membership is voluntary and limited to international manufacturers of aluminium aerosol containers.

AEROBAL is the only organisation which can speak on behalf of the international aluminium aerosol can industry and represent its interests.

Governing bodies:

AEROBAL President: Mr. Emmanuel Perret (representing Exal (USA) and Boxal (F))
AEROBAL Vice-President: Mr. Takaaki Takeuchi (representing Alucon (THAI))

Members:

Alucon, Thailand
Alcan Packaging Cebal, Czech Republic
Alcan Packaging Cebal, France
Alcan Packaging Cebal, Spain
Alcan Packaging Cebal, UK
Boxal, France
Boxal, Netherlands
CCL Container, Canada
CCL Container, USA
CCL Container, Mexico
Euro Asia Packaging, China
Exal, USA
Exal, Argentina
Metalum, Turkey
Nussbaum, Switzerland
Nussbaum, Germany
Tuba Embalaza, Slovenia
Tubettificio Europeo, Italy
Tubex, Germany

Geographical distribution:

The plants of our members are located in the following countries: Argentina, Canada, China, Czech Republic, France, Germany, Italy, Mexico, Netherlands, Slovenia, Spain, Switzerland, Thailand, Turkey, United Kingdom, USA.

So AEROBAL covers major players from Europe, North America, South America and Asia which are the most important producer regions in the world.

WORKING RULES

International Organisation of Aluminium Aerosol Container Manufacturers

(AEROBAL)

1. Name, office, legal status

The name of the organisation is

“International Organisation of Aluminium Aerosol Container Manufacturers (AEROBAL)”.

The Organisation is based in Düsseldorf. It is a non-registered, non-profit organisation.

The business year shall be the calendar year.

2. Objects

The objects of the Organisation shall be:

- 2.1. to promote the use of aluminium aerosol containers
- 2.2. to act in the general interest of the international aluminium aerosol container industry.
- 2.3. to collect, disseminate and maintain statistics and other information concerning any matters affecting the international aluminium aerosol container industry.
- 2.4. to exchange scientific, technical, economic, environmental and legal information.
- 2.5. to keep and improve contacts between the various branches of the aerosol industry.
- 2.6. to establish official relationship with corresponding organisations in other parts of the world.
- 2.7. to make representations on behalf of the international aluminium aerosol container industry.

All Organisation activities to achieve these objects and any agreement amongst members and between members and their suppliers or customers are only allowed under the condition that they are legally permissible.

3. Membership

- 3.1. Membership of the Organisation shall be open to all companies engaged in the production of aluminium aerosol containers.
- 3.2. Applications for membership shall be in writing (by letter, fax or email).

- 3.3. All members shall have the same rights and obligations.
- 3.4. Members are obliged to participate in the Organisation's statistics.
- 3.5. Members shall actively support the Organisation in its operation and refrain from any activity contrary to these Working Rules or which might jeopardize the achievement of the Organisation's objectives.
- 3.6. Members are obliged to pay the annual membership fee in form of a financial contribution.
- 3.7. Members may be expelled from the Organisation, if they contravene, with malice aforethought, the interests of the Organisation.
- 3.8. Membership ends
 - on the dissolution of the Organisation
 - on the dissolution of the member company
 - on the resignation of the member company
 - on expulsion of the member company by the General Assembly
 - if the member company has not met its financial obligation
- 3.9. Members may resign from the Organisation at the end of any calendar year provided they give six months notice in writing to the Secretariat (by letter, fax or email). All obligations to the Organisation shall be met up to the effective date of such resignation. Any resigning member shall lose all its rights as a member of the Organisation as from the date of termination of membership.

4. Organisation

The affairs of the Organisation shall be conducted by the General Assembly, the President and the Secretary General.

4.1. General Assembly

- 4.1.1. Each member may be represented in the General Assembly. The General Assembly shall be duly convened in writing (ordinary mail, fax, e-mail) subject to a term of at least 30 days. The General Assembly shall meet at least once a year. Extraordinary meetings of the General Assembly may be held at the request of at least one fifth of the members upon giving 30 days notice to the Secretariat and stating the nature of the business to be raised at such a meeting. The quorum for any meeting of the General Assembly shall be reached when the rules for its convention are fulfilled.
- 4.1.2. In case a member cannot attend the General Assembly, he can still vote by giving his position in writing to the AEROBAL Secretariat at least 48 hours before the meeting.
- 4.1.3. The power of the General Assembly is as follows:
 - alteration of the articles of the Organisation
 - decisions on subscriptions and annual membership fees
 - approval of the general annual budget and the statement of account

- approval of the activity programme
- election of the President and the Vice-President
- approval of AEROBAL joining other Associations
- exclusion or acceptance of members
- designation of working committees
- decision on the dissolution of the Organisation

4.2. Presidency

- 4.2.1. The AEROBAL President and Vice-President shall be elected normally for two years with effect from the date of the General Assembly when elected with the possibility of re-election.
- 4.2.2. The President or, in his absence the Vice-President, shall chair the meeting of the General Assembly.
- 4.2.3 The President shall be entrusted with the power of day-to-day management of the Organisation and such other powers as may be conferred upon it by the General Assembly
- 4.2.4 It will be allowed to delegate tasks related to the day-to-day management to special working groups of the Organisation or to the Secretary General.

4.3. Secretary General

- 4.3.1. The Secretary General shall be appointed by the General Assembly upon recommendation of the President. The General Assembly is also empowered to replace the Secretary General.
- 4.3.2. The Secretary General shall be responsible to the President and shall ensure that proper records are kept of all Organisation meetings. The Secretary General can also be entrusted by the President with the execution of certain tasks related to the day-to-day management of the Association such as
- systematic collection of all relevant data
 - co-ordination of member information and advice
 - organisation and minuting of meetings
 - presentation of annual accounts
 - presentation of current budgets

- 4.3.3. Within the frame of the Organisation's budget the Secretary General has the power to oblige the Organisation against third parties. Obligations that exceed the budget frame, have to be coordinated with the President.
- 4.3.4. This power is valid until revocation by the President in accordance with the Vice-President.

5. Voting

- 5.1 Each member shall have one vote.
- 5.2 Decisions in the General Assembly and in any working group are taken by an absolute majority of members present with the exceptions laid down in article 5.3.
- 5.3 Decisions of the General Assembly upon
- alterations of the Working Rules
 - applications of membership
 - expulsion of a member company
 - dissolution of the Organisation or its merger with another Association

may not be taken other than with a majority of at least two third of the members present.

6. Language

The records and official documents of the Organisation will be kept in English.

7. Dissolution

- 7.1. The proposal for dissolution or merger of the Organisation must appear on the General Assembly's agenda of which at least 90 days notice must be given.
- 7.2. In the event of dissolution the General Assembly shall designate one or more delegates who shall be charged with the liquidation of the Organisation. The power of such delegates shall be determined by the General Assembly.

8. Salvation Clause

Even if one of the above-mentioned regulations of the Working Rules turns out to be illegal, all other regulations of the Working Rules remain valid.

9. Approval

The Working Rules were constituted and approved by the General Assembly on 28th September 2005 and came into force on 1st January 2006.

AEROBAL Income/Expenditure 2006-2007

Plans adopted by the General Assembly on 31 May 2006

(in EURO)	Plan 2006	Plan 2007
Income		
Contributions Total	79.000	79.000
Expenditure		
Contributions to GDA	53.000	53.000
Conferences/Meeting Cost	10.000	10.000
Travel Expenses	4.000	4.000
Website Running Cost	2.000	2.000
PR Activities	6.000	6.000
Miscellaneous/Unpredictables	4.000	4.000
Expenditure Total	79.000	79.000

European Association of
Aluminium Aerosol Container Manufacturers

Europäische Vereinigung der Hersteller
von Aluminium - Aerosoldosen

Association Européenne des Fabricants
de Boîtes en Aluminium pour Aérosol

AEROBAL

**United Nations
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Transport Division
Dangerous Goods and Special Cargoes Section
Mr. Olivier Kervella
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6 April 2004
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Alternatives to the waterbath test for aerosols / AEROBAL input for the next meeting of the UN Sub-Committee for the Transport of Dangerous Goods in July 2004

Dear Mr. Kervella

In May 2003 AEROBAL officially applied for a consultative status in the UN Sub-Committee for the Transport of Dangerous Goods in order to participate in the discussion about alternatives to the water bath test for aerosols. The UN Sub-Committee denied AEROBAL this status and pointed out that the positions of the overall aerosol industry are represented by the European Aerosol Federation (FEA). Thus AEROBAL was asked to come to an agreement in this matter with FEA. In this respect the report of the 23rd Session of the UN Sub-Committee says on page 15, point 96: "The Sub-Committee noted that most companies affiliated to AEROBAL are also affiliated to FEA and considered therefore that, to preserve an appropriate balance between industry interests of various parts of the world, AEROBAL should be requested to coordinate its positions with FEA which could represent its interests."

Since this 23rd Session there have been several exchanges as well as two formal meetings of FEA and AEROBAL representatives in November 2003 and March 2004 to try to find a joint proposal concerning a water bath test alternative.

After the March 2004 meeting FEA sent an official proposal dated 2 April 2004 to the UN Sub-Committee which was not endorsed by AEROBAL. With regard to this FEA proposal, AEROBAL would like to raise the following points which were already mentioned at the a.m. joint FEA/AEROBAL meetings:

- With reference to the chapter 6.2.4.2.2.1.2. “Specific to the can maker” of the FEA proposal, we would like to point out that the requirement “This shall be at least two-thirds of the deformation rating of the can” is not applicable to aluminium cans. With relatively high pressures of up to 18 bar, which filled aluminium aerosol cans might reach, available testing devices have shown deformation of the aluminium can because the can - due to its material properties - cannot stand the load of the fixing device. This test procedure has a detrimental effect on the integrity of the aluminium can and therefore cannot be used in practice.
- The results presented in the report UN/SCETDG/24/INF.49 are only related to tinplate cans because aluminium cans could not meet the requirements of the FEA protocol for the trial at the Wella plant in Hunfeld (100 % pressure tested empty cans). It is not possible for aluminium can producers to test their empty cans on 100 % pressure resistance according to the manner required by the FEA protocol. The requirements are only feasible for tinplate but not for aluminium cans. Thus it is still to be proved that this protocol is also efficient for aluminium cans.
- Given the condition that any alternative has to be audited by an inspection body and endorsed by the Competent Authority prior to its operation, AEROBAL is of the opinion that provisions for other alternatives, e.g. “alternatives using heat” such as the existing shower bath system (**annex 1**), must also be considered in the revised regulation.

AEROBAL is prepared to discuss the above-mentioned points with any party involved in the discussion process in order to come to a proposal which takes account of all relevant aspects.

Since decades the waterbath test has proved to be a safe and reliable test for filled tinplate and aluminium aerosol containers securing utmost transport safety. The waterbath test alternative which is included in the current FEA proposal would be limited to tinplate cans only and would mean that the filled aerosol container is no longer pressure tested.

Finally, any alternative test system has to guarantee the pressure stability of the finished (filled) product in order to avoid non-calculable safety and product liability risks for all parties involved in the production and transport chain (**annex 2**).

We would like to ask you to add this AEROBAL document (including annex) to the list of documents which can be downloaded in preparation for the next UN Sub-Committee meeting in July 2004.

Best regards

AEROBAL

Thomas Nussbaum
President

Gregor Spengler
Secretary General


cc: **Mr. Benassi, Chairman of the UN Sub-Committee**
Mr. Wybenga, Vice-Chairman of the UN Sub-Committee
Mr. D’Haese, FEA

Annex

Warm Water Test Bath/ Alternative Test Methods

Combination Facility High-performance shower bath/micro-leakage detector

By Bernd V. Braune

 According to the Aerosol Directive 94/1/EC, GGVS/ADR and TRG 403 item 4, each aerosol can put on the market must be tested in a warm water bath. In the present article this test method and possible alternative test methods will be presented.

installed in the aerosol filling lines.

At that time, the aerosol industry was to some extent still in its infancy and neither cans nor valves met the present quality standards.

In order to offer the final consumer a pressure-resistant and leakproof packaging, the finished aerosol cans still pass through a warm water bath within an aerosol production line. This ensures that only pressure-resistant and leakproof aerosol cans are put on the market.

High safety standards

The present quality assurance in the European supplier and manufacturing industry ensures the highest level of production quality. Moreover, the aerosol industry undertook to set higher safety standards in order to make the finished aerosol can still more safe for the final consumer.

This basis, i.e. the highest product quality produced by the suppliers' industry, was the prerequisite for the development -

in addition to the warm water bath test - of the alternative test methods, which are presented hereafter.

Alternatives to the warm water bath test - Conditions of use

Over the last 4 years, the FEA Water Bath Task Force has controversially discussed alternative test methods to the warm water bath test. In the heat of the moment it has been completely disregarded that the experts in Brussels dealt with alternatives in addition to the warm water bath test. This does not at all mean that the filling companies have to give up the warm water bath test if they identify with this test facility. They are free to use alternatives if these methods are classified as equal to the warm water bath test and meet the requirements of the European directives.

The fact is that according to Aerosol Directive 94/1/EC, GGVS/ADR and TRG 403 item 4 each aerosol can must be tested in a warm water bath at 50°C. During this process, pressure stability and tightness of the finished aerosol can are tested.

Background/History

In the 50s, the warm water bath test was developed as aerosol safety test and



Warm water test bath/Universal test bath

According to the Burgoyne experience - warm water bath test versus alternatives - ordered by FEAs, if alternative test methods are used it must be ensured that they meet the "Bursting" and "Leakage" safety criteria applied to aerosol cans put on the market. Burgoyne comes to the conclusion that according to the present state of the art both methods can be classified as equal as far as safety is concerned. This will be further specified hereafter.

Warm water bath test at 50°C

In order to ensure that the final consumer, who complies with the safety advice "Pressurised container. Protect against sun rays and temperature over 50°C" is really safe, the finished aerosol cans are tested in a warm water bath test at 50°C. In this way, only pressure-resistant and leakproof aerosols are put on the market. Cans identified as defective are removed.

Potential sources of defects at finplate and aluminium aerosol

cans are the clinching (leakages between the valve and the can bead due to incorrect clinch setting, worn-down or defective clinching jaws), defective valve, overfilling, use of wrong propellant, pressure stability variations leading to deformations up to bursting and in the case of finplate cans additional leakage in the area of the cover, bottom and welding.

The tightness test is carried out either visually or automatically by means of leakage detecting aggregates in or after the warm water bath test.

Alternative test method

The successful use of alternative test methods is based on three technological safety pillars:

- use of certified pressure-resistant and leakproof aerosol cans
- check of possible overfilling (product or propellant) by check weigher
- micro-leakage test of the finished aerosols by means of appropriate appliance.

Certified cans

The basic condition for certifying a can is a reliable quality assurance at the can manufacturer. The essential item is the passing of all manufactured aerosol cans through a rotary can tester where their pressure-resistance and tightness are tested up to 100%. In the case of uncertified cans, pressure-resistance is tested in the warm water bath.

The first rotary can tester was developed by Staehle; in cooperation with the Swiss Wilco AG, Staehle developed the Wilcomat AE/PA, which combines bursting and leakage test.



A feed star-wheel puts the aerosol can on the carousel from which it is lifted by a pneumatic cylinder in the test chamber. By means of a holding device the can is sealed up towards the chamber and is freely suspended. At first, the bursting test is carried out. To this end the can is over-pressurised by 10 bar. Because of the free suspension in the test chamber, the cover or the bottom of a defective can takes off or its longitudinal seam breaks up. The free suspension avoids that weaknesses remain unknown due to the cylindrical fixing of the can.

The bursting test offers the ideal starting point for the subsequent leakage test. The protection chamber serves as test chamber and the (high) bursting pressure as (high) filling pressure. If the can leaks, a pressure rise is measured in the chamber.

Due to the high filling pressure, even small leakages are identified. During a 100%-in-line test, a leakage rate of 10^{-2} mbar x l x s⁻¹ can be measured. Experience has shown that more than 99% of all leakages are bigger and that smaller leakages may also be closed by the can contents. By chance, the leakage rate of 10^{-2} mbar x l x s⁻¹ corresponds to the rate which the German TÜV has been requiring for several years.

Check weighers

Thanks to the installation of a check weigher after the propellant filling under- and over-filled cans are automatically removed. For all fillings of 20 to 300 cans per minute, the supplier industry offers the appropriate check weigher in all protection classes.

Micro-leakage testing

For the testing of leakages in the clinching, i.e. between valve and can bead, the filler is the only one to be responsible. The micro-leakage testers used to date detected leakages in a performance spectrum of up to 240 cans/min. A leakage rate of 10^{-2} mbar x l x s⁻¹ is measured; this corresponds to 5 g expanded LPG per day or 2 bubbles per second.

In one German aerosol manufacturing company, more than 5 million certified aerosol cans have been filled up and - in parallel to the water bath test - they were tested with a 24 head-rotary leakage detector to detect micro-leakages. The leakage detector was clearly better at finding leakages than the warm water bath test.

Conclusion

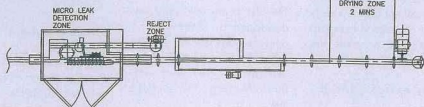
It must be stressed that both methods - the warm water bath test and the alternative test method based on the certified can, the check weigher



Rotary can tester installed in an aerosol can production line



Shoulder Bath



Layout combinations Shoulder Bath/micro leak detection

and the microleakage test of the finished aerosol - should be considered as technologically equal methods. In the meantime, a validation procedure is being carried out in order to obtain European approval of the alternative test methods for finished aerosols.

**Further development:
Combination facility
high-performance-warm-
water bath-test/micro-
leakage test**

To date the European legislation still requires a warm water bath test for all filled aerosol cans in order to meet the agreed production, distribution and sale standards.

Since its introduction, the warm water bath test has successively been adapted to the state of the art.

The economically acceptable performance spectrum of the conventional warm water bath tests is between 220 to 250 cans/min.

If the aerosol filling lines produce higher performances (300 cans/min), the dimen-

sions of the warm water bath must be increased.

This would have two disadvantages:

1. For the majority of the aerosol filling companies this would cause a problem of space.
2. Due to the size of the bath, the water part would increase and consequently the energy needed to keep the bath at a constant temperature of 55°C.

The newly developed aerosol test aggregate composed of a shower bath system combined with a micro-leakage detector instead of the conventional warm water bath technology fully meets this performance requirement.

Shower bath

The shower bath was developed for the pressure test of tinplate and aluminium cans at speeds of up to 300 cans per minute and is a direct alternative to the warm water bath test.

In the shower bath the filled aerosol cans are slowly conveyed through the machine by means of an open fine-meshed conveyor band.

While the cans are transported through the machine, they are showered by steadily recirculating water of approx. 55°C. This lasts approx. 3 minutes.

Compared with the conventional warm water bath test, this system is - with regard to its container conveying performance - smaller and more efficient, which is especially important for high-speed lines.

Practical tests at the operator's have shown that if 300 cans are conveyed per minute, a balanced pressure/50°C can be achieved in less than 3 minutes. This applies both to 250 ml as to 300 ml cans.

The machine has drying sections, which are fitted with air nozzles that eliminate the remaining water from the valve cup and dry the can sides.

As part of the concept a danger and risk analysis was carried out which ensured that the

necessary safety measures have been taken, i.e.

- Design and manufacture of the machine were carried out in compliance with the European standards including the requirements of the B.S. (British Standard) - Health and Safety at Works Act BS 5304.

- Moreover, tests were carried out at KP Aerofill in Hayes/GB which ensure that the safety enclosure resists exploding aerosol cans.

**GLDS 300
Micro-leakage detector**

The dried and pressure-resistant aerosol cans filled with product and propellant, which passed through the shower bath, are conveyed to a high-performance micro-leakage tester, which has especially been developed for tinplate and aluminium aerosol cans.

This new technology is equipped with 6 robust and ultrasensitive ceramic gas sensors which extract at strategically defined positions a defined quantity of air of the can and the valve to analyse them.

The ceramic sensors measure the difference of the oxygen content between the air sample taken from the can and a reference air sample of the ambient air. The air sample is analysed while it passes the sensor. The gas-product mixture in the air sample, which is to be analysed, reacts in the sensor and reduces the oxygen content in the air sample.

The resulting EMK signal is proportional to the gas content of the sample. Therefore, the system can detect in the case of a balanced pressure, micro-leakages of up to 1-2 bubbles per second, which at ambient temperature are much lower.



GLDS 300, micro leak detector

During the air extraction the aerosol cans filled with product and propellant are conveyed in line in a screw and simultaneously rotated on their axes. This ensures e.g. that in the case of a tinplate aerosol can, valve, can bead, cover bead, welding seam, bottom bead of up to 300 cans/min. are reliably tested.

Leakages are detected with precision. Defective cans with a leakage rate exceeding 10^{-2} mbar x l x s⁻¹ (this corresponds to 5 g gas loss per package per 24 hours at 50°C or approx. 2 bubbles per second) are automatically removed by means of a vacuum star-wheel via a removal conveyer integrated in the machine.

Conclusion

The shower bath / micro-leakage test developed by KP Aerofill/GB, meets the can bursting & leakage test criteria, in a performance spectrum of 300 cans/min. This type of finished can test is another alternative to the conventional warm water bath test especially in the high performance field.

Paris, April 18, 2001

**REVIEW OF THE PROPOSED ALTERNATIVES TO WATER BATH TESTS FOR AEROSOL CANS
UNDER FRENCH PRODUCT LIABILITY LAW**

EXECUTIVE SUMMARY

1. We are of the opinion that the implementation of the alternative method would increase the overall risk of liability borne by producers in the production process of aluminium aerosol cans as there is no evidence that such method would afford a safety standard as high as that afforded by the hot water bath testing method which has proven to be reliable.
2. In any event, the implementation of the alternative testing method would leave parts of the production process of aerosol cans uncontrolled as against the risks of bursting, such risks being currently monitored with the hot water bath testing method.
3. In this respect, considering the rationale of consumer's protection underlying the Directive 94/1/CE of January 6, 1994, regulating the testing methods to be used for aerosol generators, it does not seem that the alternative method could qualify as reaching an equivalent result to that afforded by the hot water bath testing method.

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DOC ID
OUR REF Mk/KGL
YOUR REF

21 March 2001

Legal opinion regarding the consequences under German Product Liability Law in Connection with the Projected Alternatives to Water Bath Tests for Aerosol Cans

Dear Mr. Spengler,

please find enclosed our above-mentioned legal opinion.

We may summarize the results of this legal opinion as follows:

1. Can manufacturers as well as fillers are producers in the sense of German Product Liability Law which is divided into two general concepts, strict liability (irrespective of negligence) and negligence (based on the law of torts).
2. Producers not only have to meet the generally-accepted rules of technique, but have to take into account the latest accessible technical and scientific know-how and possibilities; they must comply with the requirements of the state-of-science-and-art which is the top level.
3. Alternatives to the hot water bath test which has been used for over forty years and is commonly accepted may only be implemented, if no doubt at all remains as to whether bursting risks of filled aluminium aerosol cans remain.



4. If filled aerosol cans are no longer tested under the same conditions under which an end-consumer makes use of them, we are of the opinion that this leads to a higher product liability risk on the side of each producer involved in the production process compared to the actual situation in which filled aerosol cans are tested in the hot water bath.
5. Since a producer of a component is only responsible for its part in the overall production process, the responsibility under product liability law for the filled aerosol cans remains with the fillers.
6. Several producers are jointly and severally liable unless the responsibility may be allocated to one of them.
7. As to the burden of proof in product liability litigation, one has to recognize that legislation as well as jurisdiction tend to more and more shift the burden of proof onto the producers.
8. Under the projected alternative to the hot water bath test, the fillers involved might have - in case of a damage - problems to prove that the filled can had no defect at the time it was brought onto the market. A plaintiff might therefore have a stronger case than if the filled aerosol cans had undergone a 100% pressure and leakage test at the end of the overall production process.

If you have any queries, please do not hesitate to contact us.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Dr. Mecklenbrauck'.

(Dr. Mecklenbrauck)

Enclosure