



EPBA's Recommendations for Capacity Labelling of Portable Primary Batteries



DG Environment Workshop on Capacity Labelling
of Portable & Automotive Batteries
Brussels, 19 December 2008



- What is battery capacity?
- Why do producers display capacity for rechargeable batteries?
- Why is capacity difficult to define for primary batteries?
- Difficulties with Bio IS recommendations.
- EPBA recommendations.
- Costs.
- Strengths of EPBA proposal.
- Conclusion.

- Rated Capacity is the measure of energy contained within a battery **under set conditions**. The value is dictated mainly by the nature of the chemicals used and their amount i.e. the battery size. This is a **theoretical value** and is measured in ampere-hours.
- Delivered Capacity is also measured in ampere-hours but reflects the **actual energy available to the consumer in the specific circumstances that the batteries are used**. This value is highly dependent on factors such as: the device, operating temperature, minimum operating voltage of device, continuous or intermittent use of device by the consumer.

- For *rechargeable* batteries

Rated Capacity \approx Delivered Capacity

- International Standards define test methods that allow determination of rated capacity.

- For *primary* batteries

Rated Capacity \neq Delivered Capacity

- International Standards therefore **DO NOT** provide methods for measuring capacity of primary batteries.

- **Legal & enforcement Issues:**
 - Performance labeling instead of capacity labeling;
 - Difficult to transpose into a regulatory framework;
 - Member States will require complicated statistics, quality control and testing schedules to monitor the labeling requirements resulting in increased costs and delayed enforcement.

- **Consumer information issues:**
 - Complex and technically challenging for consumers to understand;
 - Consumers will experience differences between performance on the label and performance in use due to environmental factors and use factors;
 - Will not cover the vast majority of applications in which batteries are used.

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- **Technical issues:**
 - Difficult and costly to monitor and implement e.g. tests must be carried out under strict conditions on batteries that are 12 months old.
 - Information printed on the batteries would soon be out of date due to changes in the market.
 - Standardized test conditions are seldom the conditions under which consumers use batteries.
 - ➔ Temperature/climatic differences northern & southern Europe
 - ➔ single performance indicator for both consumers may not be relevant.
 - Makes excessive space demands for the label which could lead to manufacturers having to increase the size of packaging and jeopardize trends towards simpler (e.g. shrink wrap) packaging design.
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- **Scope:**
 - Capacity labelling for portable primary batteries would apply to the following chemistries and sizes only:
 - **Zinc Carbon batteries** – those having the EN/IEC designation R(S) and containing zinc and/or ammonium chloride electrolyte.
 - **Zinc Chloride batteries** – those having the EN/IEC designation R(P) and containing zinc chloride electrolyte.
 - **Alkaline Manganese batteries** – those having the EN/IEC designation LR and containing potassium hydroxide electrolyte.
 - Sizes D, C, AA, AAA and 9V.
 - These batteries cover 91% by volume of portable primary batteries placed on the market within the EU.

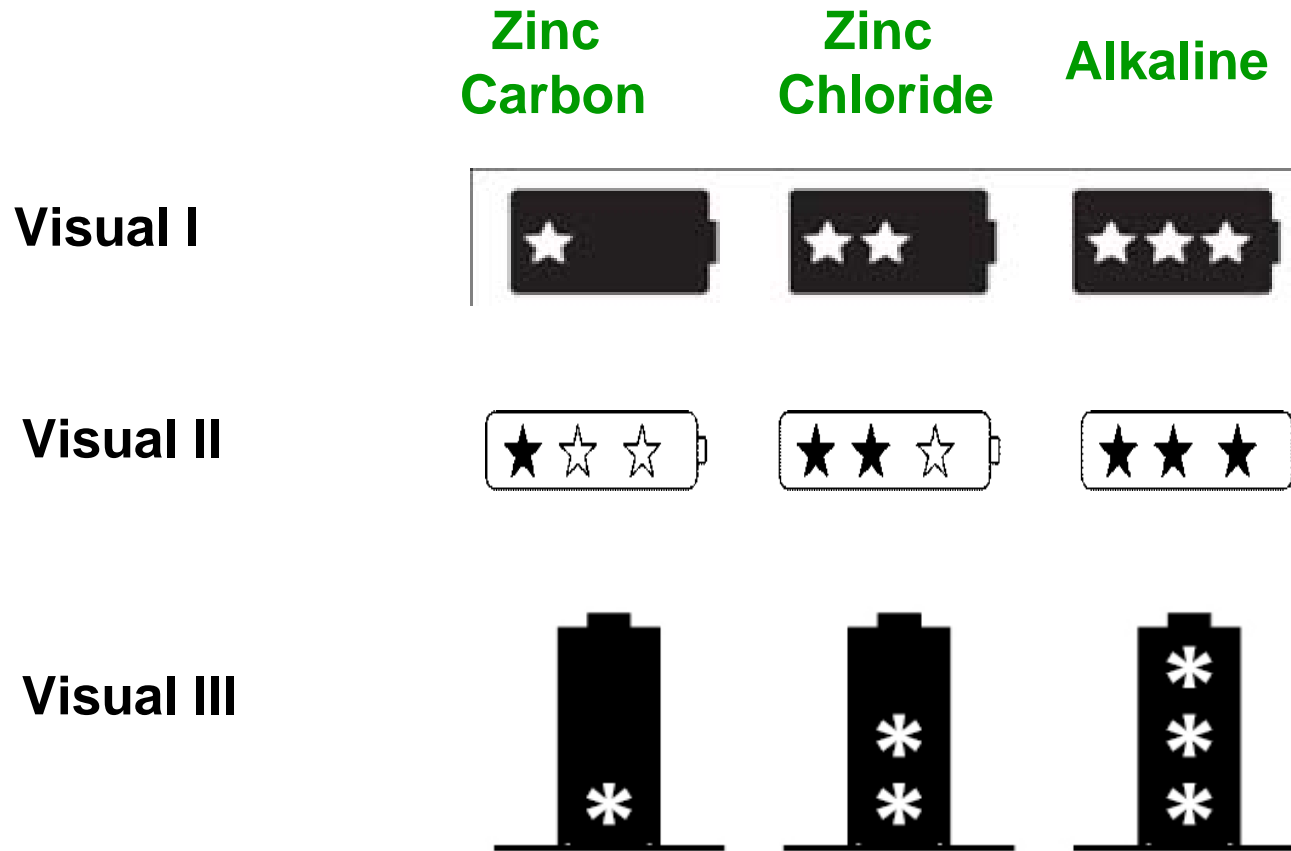
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- **The following portable primary batteries would be exempted from capacity labelling:**
 - Chemistries that do not have Minimum Average Duration (MAD) performance levels specified in EN/IEC Standards e.g. Nickel Oxyhydroxide and Lithium Iron Disulfide chemistries since they are emerging technologies that account for less than 1% of battery sales today.
 - Portable primary batteries sold without packaging.
 - Portable primary batteries sold with equipment.
 - Portable primary batteries and button cells designed for special purposes such as for watches, hearing aids, etc.

- **Minimum Performance Standard:**
 - In order to be placed on the market within the EU all batteries falling within the scope shall as a minimum conform with the minimum average duration (MAD) value for all the tests noted in EN/IEC Standard 60086-2 per battery size and chemistry.
 - Since EN/IEC standards are revised from time to time to reflect more closely developments in battery technology as well as in the marketplace, the performance standards producers must comply with may also change.

- **The label:**
 - Shall be applied on the packaging of the batteries.
 - Shall occupy a minimum size of 1cm diameter.
 - Shall be printed visibly, legibly and indelibly.
- ➔ These requirements are consistent with the battery Directive

Hierarchy based on battery chemistry

Examples:



- **Cost implications (average/producer)**

- Bio Intelligence proposals**

- Testing & design changes	€ 460 000
- Overhead costs	€ 90 000
- Total	€550 000

- EPBA proposal**

- Overhead costs	€ 90 000
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- Depending on implementation time (in case <18 months) an additional cost for obsolete products need to be anticipated: **The average cost will be €1 500 000**

- **Stakeholder Intent:**

Simple hierarchy based on battery chemistry which meets the original stated intent of the Parliament for information to allow consumers to choose the most environmentally favourable option of battery at the point of sale.

- **Enforcement:**

Low burden on Member States since producer self certification is easily verifiable by a simple chemical test.

- **Simplicity:**

Scheme proposed is simple, yet it is able to effectively replicate the differentiation achieved by other more complex schemes based on measurement in standard tests.

- **Size and Location:**

These are consistent with other marking requirements in the Directive.

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- **Coupling with International Standards:**
Introduces for the first time in EU regulation a minimum battery performance guarantee for the consumer.
 - **Clarity for Consumer Understanding:**
Avoids consumer confusion and misleading information in the form of application icons.
 - **Special Cases:**
By focusing on the most common batteries where consumers have a choice and following international standards the recommendation avoids unnecessary cost burdens on producers but remains technically robust.
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- The Battery Directive foresees 6 months for industry to implement the capacity marking decision from TAC
- A 6 month period is not sufficient.
- The time needed for industry to implement the changes should be 18 months

- EPBA is committed to ensure consumers get clear information
- We consulted international experts to inform our position.
- We voluntarily introduce a quality assurance dimension for our EU consumers
- We call on the European Commission and Member States to support this approach.

Thank you for your attention!