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A S S O C I A T I O N

Guidelines to Environmental Battery Marking in Europe

- According to EU laws, specific marking is required for batteries containing mercury, cadmium and lead
- Relevant European legislation is the Battery Directive (91/157/EEC) with its technical adaptation (98/101/EC) to be implemented by December 31, 1999 and the Directive on Battery Marking (93/86/EEC)
- These Guidelines also cover international standards and specific national marking requirements

Guidelines to environmental battery marking in Europe

1. Introduction

Under EU law, nickel cadmium, lead acid batteries and mercury containing button cells are required to be separated from normal waste for disposal. To ensure their identification, these batteries are required to carry a separate collection symbol.

For application of the regulations in European countries outside the EU, it is recommended to consult the national battery association.

There are also international standards such as IEC 1429 and ISO 14021 covering marking on batteries and recyclable products.

Illustrations of the symbols are available from this site.

NB: The term battery, or batteries, used in this document means single cells or battery packs used as individual units.

2. Batteries covered by the EU Directive

According to Directive 98/101/EC of December 22, 1998, adapting to technical progress the Directive 91/157/EEC, the following batteries must be marked:

- * button cells or batteries made of button cells containing more than 5 ppm mercury per cell up to 2 % mercury; this applies to silver oxide, zinc air and alkaline button cells;
- * containing more than 0.025% cadmium by weight; this applies to nickel cadmium batteries;
- * containing more than 0.4% lead by weight; this applies to lead acid batteries.

3. Mandatory European Union marking

3.1 Symbol

According to Directive 93/86/EEC, a separate collection symbol is to be used in the form of a crossed through roll-out container. It should include the chemical symbol Cd, Pb or Hg as appropriate for batteries covered by EU Directives and mentioned above.

The symbol can be placed on the existing colour background as long as it is visible, legible and indelible. A dark coloured symbol on a light background is preferred. The symbols can be attached as labels, by durable printing, or as a surface profile, either indented or as relief.

3.2 Marking dimensions on battery

On cylindrical batteries, the symbol shall cover at least 3% of half of the battery surface area (max. 5cm x 5cm).

Prismatic batteries may be marked on any side. The symbol shall cover 3% of the largest side to a maximum dimension of 5cm x 5cm.

Where the battery is so small that the symbol would be smaller than 0.5cm x 0.5cm the marks must be printed on the packaging.

The chemical symbol Cd, Hg or Pb must be placed below the symbol and be at least one quarter of the area of the symbol.

3.3. Marking dimensions on packaging

EU marks are only required on the packaging of small batteries and button cells.

When it is used on packaging, the mark must measure 1cm x 1cm and the appropriate chemical symbol should be placed below the symbol and be at least one quarter of the area of the symbol.

4. International marking standards

In accordance to ISO 14021 standards (Environmental labels and declarations, 1999), the ISO three arrows chasing symbol, or Moebius loop, 7000-1135 shall be used to indicate a recyclable product, provided collection or drop-off facilities for the purpose of recycling are conveniently available at a reasonable proportion of the purchasers.

This symbol has been incorporated into IEC International Standards 1429 (Marking of secondary cells and batteries, 1995-12) and is applicable to lead acid and nickel cadmium batteries.

5. Voluntary marking for rechargeable batteries

To ease the identification of rechargeable systems, it is recommended to place the ISO recyclable symbol as a banderole or a panel on a specific colour background, as follows:

NiCd	: yellow green (Pantone 389c)
Lead acid	: grey (Pantone 877c)
Ni Metal Hydride	: orange (Pantone 1375c)
Lithium ion	: blue (Pantone 312c)

6. Specific national marking

6.1. The Netherlands

No additional marking is required for batteries covered by the EU Directive (98/101/EC).

For all other batteries, the KCA symbol (or small hazardous waste) should be placed on the packaging. Details of the symbol can be obtained at STIBAT:

Fax no +31 793 53 11 46

Email address: stibat@fme.nl

Internet address: www.stibat.nl

6.2. Belgium

Companies subscribing to collection and recycling scheme operated by BEBAT are required to display the ecotax-exemption symbol on the packaging of all batteries including those covered by the EU Directive. The use of the symbol is restricted to Belgium.

For further detailed information, please contact BEBAT:

Fax no +32 2 721 07 20

Email address: info@bebat.be

Internet address: www.bebat.be

For further general information on marking guidelines, please contact:

**EPBA
204, avenue Marcel Thiry
1200 Brussels
Belgium**

Tel no +32/2 774 96 02

Fax no +32/2 774 96 90

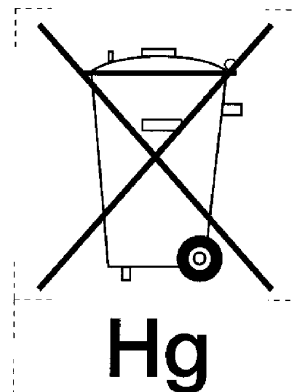
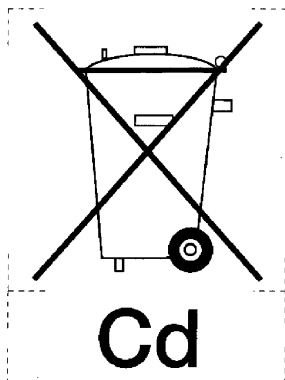
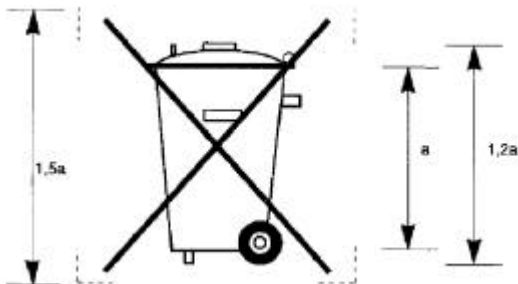
Email: eyam.epba@ey.be

EU MANDATORY & VOLUNTARY SYMBOLS DIMENSIONS

The following table has been derived using formula: $a \geq 0.12 \sqrt{A}$
 a = nominal symbol dimension
 A = half battery curved surface area (cylindrical) or area of largest side (prismatic)

Battery Size		Nominal "a" (in millimetres)	Coloured panel (1,5a x 2a) May be horizontally extended to banderole shape (in millimetres)
<i>IEC code</i>			
AAA	R03	4,6	7 x 9
AA	R6	4,6	7 x 9
6F22	6LR61	4,6	7 x 9
Cs	R14	4,6	7 x 9
C	R14	6,6	10 x 13
D	R20	6,6	10 x 13
F	R25	8,0	12 x 16
NP 55		8,0	12 x 16
6Cs		10,0	15 x 20
3D		10,0	15 x 20

1. Mandatory EU Marking



EU MANDATORY & VOLUNTARY SYMBOLS DIMENSIONS (2)

2. Voluntary Marking

