
The EU (European Union) Battery Directive is intended to improve the environmental policies associated with batteries and accumulators sold in the European Union. In 1991 the European Union adopted Directive 91/157/EEC which was intended to reduce environmental hazards related to batteries containing dangerous substances by harmonizing Member States' laws on the disposal and recycling of these types of batteries. As a more comprehensive step, the EU replaced Directive 91/157/EEC with the current Directive 2006/66/EC in 2006. This new directive sets maximum quantities for certain chemicals and metals in batteries; tasks Member States with encouraging improvements to the environmental performance of batteries; requires proper waste management of these batteries, including setting waste battery collection rate goals; sets financial responsibility for programs; and makes rules, including labeling, marking, documentation, reviews, and other administrative and procedural matters.

All batteries sold in the European market must comply with the requirements of the EU battery Directive (2006/66/EC), with the very limited exception of batteries intended to be used in space, and those used in specific government and military applications of member states. A copy of the directive can be downloaded at the following link: EU Battery Directive (2006/66/EC). We have summarized the main compliance criteria of the battery producers or distributors for your review here. This document is only intended to provide general guidance to battery suppliers. The intent of this directive is to allow for environmentally sound disposal of waste batteries outside of the unsorted landfills or incinerators. This directive does not address safety, transportation or performance concerns which should be considered for all batteries in accordance with the directives and standards for the devices they are used in, or under the General Product Safety Directive (2001/95/EC) directive.

Prohibitions

Batteries that contain certain levels of Mercury (Hg) or Cadmium (Cd) are prohibited from being sold in the European market.
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<th>Substance</th>
<th>Prohibited Limits</th>
<th>Exceptions/Notes</th>
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<tr>
<td>Mercury (Hg)</td>
<td>≥ 0.0005% by weight (stand alone or in a device)</td>
<td>Does not apply to button cells with &lt;2% Mercury by weight. Additional marking may be required for exception compliance.</td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
<td>≥ 0.002% by weight (incorporated in a device)</td>
<td>Does not apply to portable batteries used in emergency, alarm (including emergency lighting) applications, medical applications, or cordless power tools*</td>
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*-Exemption for portable power tools will be re-evaluated periodically and may be removed in the future

**Marking**

In order to comply with the directive, batteries must have specific markings on them. All batteries must be marked with an Amp-hour (Ah) rating (Ah is calculated based on the appropriate international performance standard(s) for the battery chemistry involved). There are also requirements related to the size of the capacity label that must be provided.

- For cells that are sold individually, the marking will need to be visible on the cell and be at least 1 x 5mm.
- For cells that are sold in packages, the marking will need to be on the front of the overall packaging and be at least 5 x 12mm.
- For battery packs with the largest side <70cm², the capacity label must be at least 1 x 5mm.
- For battery packs with the largest side >70cm², the label must be at least 2 x 5mm.
- If the battery is too small to legibly print the capacity marking, it may be printed on the packaging with a size of at least 5 x 12mm.
- If the battery is not provided with its own packaging and it is too small to legibly print the capacity, it may be marked on the outer packaging of the device it is packaged with, and must be at least 5 x 12mm.
- For coin cell and memory back-up cells, the capacity marking may be on the outer packaging and must be at least 5 x 12mm.
Additionally, all batteries must be provided with the crossed out wheeled bin symbol as shown below.

![Crossed Out Wheeled Bin Symbol]

In some cases, additional information will be required to be included on the line below the symbol. In these special cases, the symbol is required to encompass at least 25% of the product label. This applies to button cells where the content of Mercury (Hg), Cadmium (Cd) or Lead (Pb) exceeds specific limits. In these cases, the chemical symbol of the affected chemical substance will need to be added below the symbol. The limits are as follows:

- > 0.005% Mercury (Hg)
- > 0.002% Cadmium (Cd)
- > 0.004% Lead (Pb)

For all other batteries the crossed out wheeled bin symbol should encompass at least 3% of the largest side of the battery with a limit of 5 X 5 cm. For cylindrical cells, the symbol should be at least 1.5% of the surface, with the same maximum dimensions. If the battery is so small that the symbol cannot be any larger than 0.5 X 0.5cm, then it can be placed on the packaging, and must be at least 1 X 1 cm. In all cases, it must be visible, legible and indelible.

**Other Manufacturer Compliance Criteria**

In order to facilitate the easy disposal of batteries, they can be collected either alone, or with the equipment they have been used to power. Since electronic equipment has its own disposal and recycling requirements within the EU, the batteries must be able to be removed from their host devices for recycling purposes and must be provided with appropriate instruction to do so. One method to meet this requirement is to have a user removable battery, but this is not the only way to meet the requirement. Another compliance method might be to have an embedded battery that can be replaced by the user or at a service center and have appropriate instructions provided.

The requirement to have the batteries be removable does have a couple of specific exceptions to consider. The directive states that
These provisions shall not apply where, for safety, performance, medical or data integrity reasons, continuity of power supply is necessary and requires a permanent connection between the appliance and the battery or accumulator.

Instruction on removal and replacement of the battery should include at a minimum

- Removal steps
- Instructions for selecting and installing a replacement battery, if appropriate
- Any warnings on handling, including any potential safety concerns
- Instructions to recycle the removed battery and how

Pictorial instructions are usually the clearest.

Additionally suppliers of batteries and battery powered product in the EU are required to provide for free take back of spent batteries for disposal. This is to be done at the expense of the suppliers and should be clearly explained and offered to customers at the point of sale.

Additionally, all producers of batteries must register within the EU as a battery producer and provide sales and recycling information that will be used to calculate the recycling levels that are defined in the program. There can be exceptions made for very small producers.

Member State Specific Enforcement Items

In addition to the items already noted, there are a number of items that are required to be either implemented or enforced by the member states and that can be and have been pushed to the producers or suppliers. One example is the requirement for member states to have collection methods or programs for the recycling of batteries. This has been pushed to the suppliers in many cases and they provide the methods for take back and recycling of batteries. They also provide sales and recycling/take back data to the member states for inclusion in the required calculations. The goals set by the directive include achieving a 25% recycle rate for batteries by 26-September-2012, and 45% by 26-September-2016. There are annual calculations that must be done to show progress toward this goal and there are reviews that are supposed to take place as the dates for achieving these goals approaches.

References: