



**EPEAT Clarification #8  
regarding definition of battery pack (published March 2012)**

**This Clarification applies to the following IEEE Standards and criteria:**

**Applicable Standards:**

- IEEE 1680.1 – Computers and Displays
- IEEE 1680.2 – Imaging Equipment
- IEEE 1680.3 – Televisions

**Applicable Criteria**

**PVC Determination:**

IEEE 1680.1 criterion 4.1.7.1 applies to battery packs, including detachable battery packs of notebook computers. Further, it is not possible to verify the presence of “technically unavoidable impurities” for lead in batteries, including notebook batteries, due to the lack of a threshold limit in the EU Battery Directive.

**Background Analysis:**

*A stakeholder requested clarification on whether a “battery pack” is considered a “battery” under criterion 4.1.7.1, for example: a battery pack in notebook computers. This question arose during Verification Round 2011-02, which investigated criterion 4.1.7.1 for desktop and notebook computers. The Level 1 investigation of notebook computers yielded inconsistent results, and the PVC decided to launch a Level 3 investigation of notebook battery packs to ascertain whether lead is a technically unavoidable impurity in notebook batteries. The stakeholder questioned the scope of the Level 3 investigation for notebook computers, specifically:*

*“What is the basis for deviating from the language of 4.1.7.1, which is clearly focused on batteries, not battery packs?”*

Criterion 4.1.7.1, an optional criterion, reads as follows:

Optional—Batteries free of lead, cadmium, and mercury

Product criterion: With the exemption of technically unavoidable impurities, batteries and accumulators (internal to the computer system) shall not contain any lead, cadmium, or mercury. Such impurities shall not exceed the limiting values as specified in the European Council and Commission Directive 2006/66/EC.

Applies to: All covered products.

Verification requirements:

- a) Declaration from manufacturer
- b) Evidence of certification from component manufacturers that is based on either

empirical data demonstrating compliance or analytical test data demonstrating compliance

References and details: European Commission Directive 2006/66/EC of 6 September 2006 on batteries and accumulators and waste batteries and accumulators, and repealing Directive 91/157/EEC.

The definition of “battery” is central to this clarification. IEEE 1680.1 does not include a definition of “battery.” However, since the criterion references the European Commission Directive 2006/55/EC on Batteries and Accumulators, hereafter referred to as the “EU Battery Directive,” it is appropriate to refer to this reference for guidance.

The PVC solicited legal advice from an attorney with expertise in battery issues and the EU Battery Directive to make certain that the PVC interpretation of the EU Battery Directive and what constitutes a “battery” for notebook computers was consistent with current legal interpretation. The attorney was asked the following:

*According to the Directive 2006/66/EC, what parts and components in a desktop and notebook computer are considered a battery or accumulator?*

According to legal counsel, the term “battery” or “accumulator” includes:

*“any components of a chemical storage device that are removable from a battery- powered device as a unit, at the time immediately prior to recycling. This would include cells, all of the contents of a battery pack and the pack casing, and any other materials (e.g. wire connectors) that are permanently connected to the cell (if a single unit) or battery pack.”*

Based on the legal guidance, the PVC determines that a battery pack, including a detachable battery pack for a notebook computer, is subject to criterion 4.1.7.1.

Further, in the course of developing this clarification, the PVC determined that there are inconsistencies in the wording of criterion 4.1.7.1, which render this criterion unverifiable for lead. The first sentence in this criterion clearly states that batteries shall not contain lead, except for technically unavoidable impurities. The second sentence states that the “threshold limiting values” to apply in this criterion to “technically unavoidable impurities” are found in the EU Battery Directive. The EU Battery Directive, however, does not establish a threshold limit on the amount of lead in batteries. The Directive only establishes a threshold amount that triggers the requirement to label batteries as containing lead over this specified level. The EU Battery Directive does NOT restrict the amount of lead in batteries; that is, the Directive does not establish a threshold limit. As such, it is not possible to verify the presence of “technically unavoidable impurities” for lead in batteries, including notebook batteries, due to the lack of a threshold limit.

**Change History:**

Created: October 2011

Revised: March 2012