



EPEAT Clarification #10 Revised
Large plastic parts free of certain flame retardants classified under
European Council Directive 67/548/EEC

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

4.1.6.2

PVC Determination:

IEEE 1680.1 criterion 4.1.6.2 prohibits the inclusion of R-Phrase flame retardants in plastic parts >25g. It has been pointed out that commonly available supplies of plastics used in electronics contain amounts of an R-Phrase classified substance – Triphenyl Phosphate, CAS number 115-86-6 – that exceeds the threshold in the criterion. Triphenyl Phosphate, CAS number 115-86-6 is reported to be an unintentional contaminant that derives from the manufacturing process of certain flame retardants used in the plastic.

According to the definition of “substance” in the cited EU Directive, and lacking an alternative definition in IEEE 1680.1, the substance in question is the flame retardant and not any contaminant such as Triphenyl Phosphate, CAS number 115-86-6. The flame retardants must be tested and not classified as an R-Phase substance.

The PVC therefore finds that plastics that use certain flame retardants not classified as R-Phrase substances (such as BDP) are not, due to the presence of Triphenyl Phosphate, CAS number 115-86-6 above the stated threshold, non-conformant with IEEE 1680.1 criterion 4.1.6.2.

Background Analysis:

See Clarification Report Number 1 for the background on the authority of the Product Verification Committee (PVC) and the context for PVC Clarifications.

This report describes recent action taken by the Product Verification Committee. The PVC has created a new Clarification for an issue not previously addressed.

Two suppliers asked the following question regarding plastic resins that they supply to a broad sector of the electronics industry. They are the two major suppliers of PC/ABS.:

Are products that contain the PC/ABS resin conformant with optional criterion 4.1.6.2 – Large plastic parts free of certain flame retardants classified under European Council Directive 67/548/EEC, given that the resin contains an impurity which is a listed R-Phrase flame retardant, at a level above the threshold in the criterion (“not more than 0.1% of total weight”)?

Staff initially advised the suppliers that the products would not be conformant if they contain that material. The suppliers then met with staff and provided a more detailed presentation that shed new light on the issue. Staff agreed with the argument presented, but said that this must be considered and ruled on by the PVC, resulting in this clarification.

According to the information provided to staff by the suppliers, the following is the situation: The resin suppliers intentionally add a flame retardant to large plastic parts >25 g. The suppliers provided documentation that the flame retardant has been tested against the R-Phrase protocols and shown not to be in conflict with any R-Phrases. However, Triphenyl Phosphate CAS number 115-86-6, an impurity in certain flame retardants, is indeed a prohibited R-Phrase substance. It is not intentionally added but rather is derived via a chemical reaction in the production of the flame retardants. Documentation has been provided that attest to that.

The question here is just what is the “substance” as defined by the EU Directive? Is it the Triphenyl Phosphate, CAS number 115-86-6 or the flame retardant? The Directive defines substance as:

“Substances mean chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition”

Thus the flame retardant substance (along with the Triphenyl Phosphate, CAS number 115-86-6) is the relevant substance according to the EU Directive definitions. The Triphenyl Phosphate, CAS number 115-86-6 is an “impurity deriving from the process used”.

Note that the 1680.1 terminology is not so clearly defined. The criterion uses the phrase: “classified as dangerous substances under European Council Directive 67/548/EEC”. The 1680.1 standard does not define the terms “substance” or “dangerous substance” independently from the reference to the EU directive. Therefore it is recommended that the definition in the EU Directive be applied.

Staff therefore recommends that plastics containing certain flame retardants that are not classified as an R-Phrase substance (one example is BDP (Bisphenol A bis-diphenylphosphate: CAS No. 5945-33-5, 181028-79-5)) not be found non-conformant with 4.1.6.2 due to the presence of Triphenyl Phosphate, CAS number 115-86-6 above the stated threshold.

Change History:

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