

Deca-BDE, Not Exempt from RoHS Scrutiny

Electronics manufacturers often receive inquiries about their products' environmental compliance with local governmental standards. As one of the most significant environmental standards throughout the European Union, the Restriction of Hazardous Substances (RoHS) was created to limit six elements found in electrical and electronic equipment. However, a recent update to the requirement will restrict a substance that was previously permitted: Decabromodiphenyl Ether (Deca-BDE). After June 30, 2008, products supplied to Europe containing this substance are no longer exempt from the RoHS directive.

RoHS is a European regulation that requires the elimination of certain heavy metals and bromine substances from electrical and electronic equipment. The directive is intended to promote the recycling of electrical equipment by reducing their hazardous substance content. The EU RoHS directive applies to "electrical and electronic equipment with voltages less than 1,000 V AC or 1,500 V DC."

Europe's RoHS Directive

After the RoHS directive went into effect July 1, 2006, a few of the restricted substances, including Deca-BDE, were not required to meet the limits outlined in the table below. Until June 30, 2008, this substance was still allowed to be used in electronics based on an official exemption. However, as Robert C. Gallagher once said, "Change is inevitable — except from vending machines." Likewise, the exemption for Deca-BDE is also changing.

These are key changes resulting from the exemption ruling:

- The removal of the exemption means products must comply with the original directive and amounts based on the table seen here.
- The exemption expires June 30, 2008. Products manufactured after that date are no longer permitted to contain Deca-BDE in amounts exceeding 1,000 parts per million.

Restricted Substance	Amount in Parts per Million (PPM)
Lead (Pb)	1,000
Cadmium (Cd)	100
Mercury (Hg)	1,000
Hexavalent Chromium (CrVI)	1,000
Polybrominated Biphenyl (PBB)	1,000
Polybrominated Diphenyl Ether (PBDE) (includes Deca-BDE)	1,000

Wire and cable manufacturers eliminated many of the restricted substances within the last several years in efforts to maintain environmental compliance. However, due to the exemption, some manufacturers still produced wire and cable products that used Deca-BDE because of its low-cost and effective flame-retardant properties. Although there are alternative flame retardants that do not contain restricted substances, there are instances where they are not technically feasible.

It can be said that if you don't have time to do something right, then you must have time to do it twice. This statement is certainly true as it pertains to RoHS. Except that the restriction on Deca-BDE doesn't allow for much time to do it right. The European Court of Justice ruled to throw out the exemption for Deca-BDE on April 1, 2008, and set a compliance date of June 30, 2008. That left only three months for the industry to redesign, requalify, manufacture and distribute compliant products. This is causing heartache within the industry relative to lead-times, raw materials, approvals, paperwork, communication and inventory. The good news is the electronics industry has transitioned once, so this isn't a fire drill without practice. In fact, it's not a drill. These requirements are real, and immediate.

With existing European environmental requirements, such as REACH (which is expected to become more aggressive every year) and WEEE, as well as domestic requirements, this type of environmentally driven activity will likely continue and even increase. As it pertains specifically to wire and cable, the Deca-BDE restriction actually has a modest impact. In fact, prior to the recent change, less than 2 percent of products expected to be exported to the European market contain the substance. Most electronics manufacturers are very aware of the restriction, and they are taking necessary actions. Initially, confirming product compliance may need extra scrutiny, but soon, things should settle down as everyone gets through this transition.

Additional technical information can be found in Anixter's Wire and Cable Technical Information Handbook on Anixter's Web site at www.anixter.com/wirewisdom.