

RoHS Is Here! (Are you Ready?)

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RoHS (European Union Directive 2002/95/EC on the Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) is a directive issued January 27, 2003 by the European Commission (EC). It directs European Union (EU) member nations to enact local legislation by August 13, 2004, which will implement the RoHS directive as regulatory requirements before the activation date of July 1, 2006.

What does this mean to you, Mr. Manufacturer?

The directive is a legally binding document for the EU member nations. It establishes regulations at the EU level, which flow to each member nation. Essentially, each EU member government must pass its own laws, patterned after the RoHS directive, and do so by the July 1, 2006 deadline. The immediate repercussions of non-compliance include fines, product recalls, market bans and damaged brand reputations. The implications of non-compliance can be severe and potentially impact organizations at every level.

RoHS is part of a growing wave of environmental regulations or “green” initiatives. In addition to RoHS for Europe, there are similar regulations being written in China and other Asian nations. Japanese companies have created a non-governmental group to standardize green procurement requirements. In the US, individual states are passing laws restricting some substances and requiring recycling of certain classes of products. California, for instance, has mandated a January 1, 2007 date of compliance with the EU RoHS directive. A common theme seen all over the world is the so-called “take-back” feature that requires manufacturers to accept old products from consumers and reuse or recycle them.

To provide a bit more detail on the requirements of the directive, RoHS restricts the use of lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr6+), polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs).

Those restrictions are in *addition* to existing regulations, such as the 47 categories of dangerous substances restricted for use in nearly every product by EU Directive 76/769/EEC and its numerous amendments. The maximum concentration of Cd is 0.01% by weight of homogeneous material, and 0.1% by weight for the other five substances. “Homogeneous material” means a material that cannot be mechanically disjointed into different materials. A substance is “present incidentally” if it was not intentionally added.

The scope of RoHS is given in the EU WEEE Directive Annex IA, categories 1 -7 and 10. The following is a summary of covered product categories:

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
5. Lighting equipment
6. Electrical and electronic tools (except large-scale stationary and industrial tools)
7. Toys, leisure, sports equipment
10. Automatic dispensers

Categories 8 and 9, which cover medical devices and measuring and control instruments, are exempt from RoHS requirements until such time that the EU Commission includes them (estimates are that this will occur in 2008 or 2009).

Electrical and Electronic Equipment (EEE) is defined as devices which are dependent on electric current or electromagnetic fields to work properly, including that equipment used to generate, transfer, or measure such currents or fields. The definition of EEE for RoHS is limited to those devices operating on a maximum 1000 Volts AC or 1500 Volts DC.

Some exemptions are declared in the RoHS annex, such as Hg in fluorescent lamps, Pb in certain alloys, and Pb in solder for servers (until 2010). The list of exemptions is growing all the time. Exemptions may be found in RoHS and the RoHS Directive Annex. All the details are in the RoHS directive text, with discussion and explanation in the DTI (Department of Trade and Industry) RoHS guidance notes.

What are the steps your company should take toward demonstrating RoHS-compliance of its products?

The first step is education. It is very important to understand, as much as possible, what it means to be RoHS-compliant and what products are affected by RoHS. One of the most important things to know is that the (proposed) basis of compliance is each “homogeneous material”; that means that each material used to construct every part in every covered electrical and electronic product must comply with RoHS. It is also important to know what is and is not exempt from RoHS.

There are several ways to go about educating yourself and your company, including attending seminars, hiring in a consultant for a seminar, and reading free information available on the internet (the best official sites are www.dti.gov.uk/sustainability/ and www.europa.eu.int/comm/environment/index_en.htm) Commercial test labs that offer RoHS services are also a good way of ensuring your products are compliant. Be sure to choose a laboratory with a good track record and reputation.

Though the regulatory climate is still unsettled, a few certainties have popped up. First of all, compliance is not optional.

If you don't face regulation directly, your customers probably will, and they will push the requirements down to you. The safest strategy is to comply with the most stringent requirements - aim for RoHS with no exemptions. You are not alone. Every other business is in the same boat, and industry groups are working hard to formulate standards for compliance.

For additional information about RoHS-related services offered by Elliott Laboratories please contact info@elliottlabs.com or call (408) 245-7800.

About Elliott Laboratories Inc.

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