Published on *The National Law Review* https://natlawreview.com

Monitoring EU Electronics Supply Chain under RoHS (Restriction of Hazardous Substances Directive)

Article By:

Sarah K. Rathke

The Restriction of Hazardous Substances Directive (RoHS) (2002/95/EC and 2011/65/EU) was adopted by the European Union in February 2002, and took effect July 1, 2006, yet many in the electronics industry are still uncertain as to its scope and requirements. Sometimes called the "lead-free directive," the purpose of RoHS is to reduce toxic electronic waste by setting maximum permitted concentrations of materials used in electronics known to be most toxic. Although it applies only to those offering electronic products for sale in EU countries, RoHS' supply chain requirements extends RoHS' reach to electronics manufacturers around the globe.

The restricted substances under RoHS are now: (1) lead, (2) mercury, (3) cadmium, (4) hexavalent chromium, (5) polybrominated biphenyls, (6) polybrominated diphenyl ether, (7) bis (2-ethylhexl) phthalate, (8) butyl benzyl phthalate, (9) dibutyl phthalate, and (10) diisobutyl phthalate. The phthalates were added to the list by virtue of 2001/65/EU in 2011, and three other substances – brominated flame retardants, chlorinated flame retardants, and PVC – are expected to be added in 2018. These materials are commonly found in electronics paints, circuit board components, glass, metal parts, lamps, integrated circuits, and microchips. RoHS sets a maximum permitted concentration of 0.1% for these substances in products for every "homogenous component" that could theoretically be separated (with the exception of cadmium, whose limit is set at 0.01%).

Under RoHS, companies can apply for "exemptions" for products where substitution with a non-restricted chemical is not feasible or if substitution is not likely to reduce negative impacts to health or the environment. Currently, there are over 80 exemptions to RoHS, some of which are extremely broad. One notable set of exemptions involves lead in soldering. Although the computer industry has been working for the past 10 years to develop manufacturing processes that do not require lead, many exemptions for lead use still remain. Exemptions automatically expire unless renewed, and if a renewal application is submitted – which it must be no later than 18 minutes before the set expiration date – the Commission must decide on the application no later than six months before the expiration date, to allow the industry time to adjust.

Manufacturers' responsibilities under RoHS include compiling technical information about their products. These technical files should include a description of the product, product drawings sufficient to understand the product's functioning and components, and then test reports, materials declarations, and/or supplier declarations and/or contractual agreements, showing that all

components of a manufactured product are compliant with RoHS. This obviously requires the cooperation of the supply chain, and end-use manufacturers need to collect supplier information for each component in their product, or else conduct testing of their own to show compliance. Manufacturers must then prepare a Declaration of Conformity (DoC) for each of their electronic products, and affix a CE mark to their products, showing compliance. Finally, electronics manufacturers must keep a record of complaints, non-conforming products, and product recalls.

Under the 2011 update to RoHS, responsibilities were added for importers and distributors. In brief, electronics importers and distributors must verify manufacturers' compliance with all of their RoHS responsibilities, and take corrective action if necessary to correct non-conformities. Thus, RoHS compliance required unprecedented cooperation in electronics supply chains (which paved the way for the EU REACH regulations, which we will publish on at a later date).

RoHS compliance has been complicated further by add-on legislation by other countries, as well as by various U.S. states. The United States does not have comprehensive electronics regulation similar to RoHS, and under the current political climate, this is unlikely to change in the foreseeable future. However, currently, eight U.S. states have adopted their own RoHS-like statutes. California is the most stringent and has adopted RoHS essentially wholesale. Under the Illinois version of RoHS, manufacturers must disclose whether "computers, computer monitors, printers, or televisions" are RoHS compliant. In Indiana, Minnesota, and Rhode Island, the RoHS legislation applies to "video display devices." New Jersey adopts RoHS for the first six RoHS restricted materials (not the phthalates). And New York and Wisconsin require disclosure of whether electronics products are RoHS compliant.

Finally, several other countries have adopted legislation similar to RoHS. China's is most notable in that it requires labeling and disclosure for 1800 specific chemicals identified; a "phase two" of the law is underway that will actually prohibit the identified substances, but so far, the Chinese government has given no indication as to when these more stringent requirements will come. India, Turkey, Japan, South Korea, Vietnam, the Ukraine, and Serbia also have legislation substantially similar to RoHS in place.

Compliance with these requirements can be a dizzying exercise in supply chain diligence. However, RoHS is the way of the future. Indeed, RoHS paved the way for the even more complex requirements set forth in the EU's Registration, Evaluation, and Authentication of Chemicals (REACH), which we will discuss in a later post.

National Law Review, Volume VII, Number 186