

CONSUMER TESTING SERVICES  
ELECTRICAL & ELECTRONICS  
RoHS SERVICES



**RESTRICTION OF HAZARDOUS SUBSTANCES**  
**TRUSTED GLOBAL ROHS SOLUTIONS**

**SGS**

# EU-RoHS DIRECTIVE

## LEGAL SUMMARY

The EU Directive 2002/95/EC Restriction of Hazardous Substances (RoHS) has been in effect since July 1, 2006 and has been revised in 2011. The changes to Directive 2011/65/EU, also known as "RoHS II" will slowly take effect over 6 years. This directive restricts the use of six hazardous materials in EEE products that are "dependent on electric current or electromagnetic fields for at least one intended function". Some product exclusions still apply.

## THE "HAZARDOUS" SUBSTANCES

RoHS is often referred to as the lead-free directive, but it restricts the use of six substances, including other heavy metals and 2 flame retardants:

- Lead
- Mercury
- Cadmium
- Hexavalent chromium
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ether (PBDE)

The maximum permitted concentrations are 0.1% or 1000 ppm (except for cadmium which is limited to 0.01% or 100ppm) by weight of homogenous material. The limits do not apply to the weight of the finished product or even to a component, but to any single homogenous material. For example, the insulation in an electrical cable or the solder on a component lead.

## ROHS II

Directive 2002/95/EC was replaced by Directive 2011/65/EU, "RoHS II," as of January 2, 2013 some revisions will be phased in over 6 years. Selected examples of major changes in the new directive are:

- RoHS is now a CE marking directive
- Expanded product scope including medical devices, monitoring and control equipment and other electrical and electronic equipment not covered by any of the other 10 categories
- Four year maximum validity of exemptions with the possibility of extension
- New "obligations" for importers, manufacturers and distributors
- Manufacturers or their "authorised representative" must submit technical documentation (to substantiate compliance) upon request of a member state enforcement agency, and retain such documentation for 10 years after a covered product is placed on the market



# RoHS IN OTHER REGIONS

Since 2006, other countries have also adopted “RoHS-like” legislation. Such countries include China, India, Japan, South Korea, Vietnam and the states of California and New Jersey in the U.S.

## USA

### CALIFORNIA

“Electronic Waste Recycling Act of 2003 (Senate Bill 20) substance restrictions (EWRA),” otherwise known as California RoHS came into effect on January 1, 2007. This law prohibits the sale of electronic devices after January 1, 2007 if the electronic device is prohibited from being sold or offered for sale in the European Union due to the maximum concentration of heavy metals as defined in Directive 2002/95/EC and subsequent amendments. The scope of this law covers a much narrower scope than EU RoHS. It includes LCDs, CRTs and other similar products and only restricts the four heavy metals restricted by RoHS: Lead (Pb), Cadmium (Cd), Mercury (Hg), and Hexavalent Chromium (CrVI). EWRA also has a restricted material disclosure requirement.

### NEW JERSEY

New Jersey’s “Electronic Waste Recycling Act” (Senate Bill 2144), came into effect on January 1, 2011. Similar to California, this law prohibits the sale of electronic devices after January 1, 2011, if the electronic device is prohibited from being sold or offered for sale in the European Union due to the maximum concentration of four heavy metals as defined in Directive 2002/95/EC and subsequent amendments. In addition, this legislation requires TV, computer, and computer monitor manufacturers to pay a fee and a plan, detailing how they will recycle their share of devices to Department of Environmental Protection (DEP).

## INDIA

“E-waste (Management and Handling) Rules 2011,” otherwise known as India RoHS is now published and has taken effect in May 2012.

This rule aims to put into place an effective mechanism to regulate the generation, collection, storage, transportation, import, export, environmentally sound recycling, treatment and disposal of electronic waste (e-waste). Specifically, the legislation includes a chapter on the restriction of hazardous substance (RoHS) in the manufacturing of EEE.

The rule governs information technology and telecommunication equipment, as well as consumer electrical and electronics. However batteries and radioactive waste are excluded.

## JAPAN

“The Marking of Presence of the Specific Chemical Substances for Electrical and Electronic Equipment” (JIS-C-0950), also known as J-MOSS came into effect on July 1, 2006 and directs that some electronic products exceeding a specified amount of the nominated toxic substances must carry a warning label. J-MOSS does not restrict or prohibit the use of RoHS hazardous materials, but passing of this law has spurred Japanese manufacturers to move to a “lead-free” design in accordance with EU RoHS.



## SOUTH KOREA

“The Act for Resource Recycling of Electrical/Electronic Products and Automobiles,” also known as Korean RoHS, came into effect on January 1, 2008, has been revised in 2011 to coincide with EU RoHS revisions. It also covers aspects of WEEE and ELV. It is based on a self-declaration system, with no special mark requirements, neither applies to parts manufactured before 2008, nor to research and development samples.



## VIETNAM

On August 10, 2011, the Ministry of Trade of the Socialist Republic of Vietnam issued Circular 30/2011/TT-BCT to restrict the same 6 substances as the EU RoHS directive. The list of applicable products under each category is essentially the same as those under Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). From December 1, 2012, information on the allowable limits of restricted

substances in electrical and electronic products that are manufactured or imported must be disclosed through one of the following:

- Upload on website of company
- User's guide / Instruction manual of product
- Information in electronic form (i.e. CD)
- Printing on the product or packaging

## CHINA

"Management Methods for Controlling Pollution by Electronic Information Products," otherwise known as China RoHS has been in effect since March 2007. China RoHS has laid down four requirements:

- Disclosure of hazardous materials and their location
- Identification of a friendly use period and label
- Identification of manufacturing date
- Placing of a China RoHS mark on product packaging

China RoHS identifies the same 6 hazardous materials as currently identified by EU RoHS. This requires testing and labelling for the same EU RoHS 6 substances. The products that are included in the scope are Electronic Information Products (EIP) listed in the EIP catalogue.

The EIP catalogue has a vastly greater scope than the products included in EU RoHS. China has proposed to include the China RoHS requirement under the current CCC certification scheme. For now China has proposed a voluntary scheme for select EIPs which may include product / materials testing, but only in authorised laboratories in China.

This catalogue has been published in August 2011.

## TO BE CONTINUED...

Every year additional countries adopt similar EU RoHS requirements. Many have aligned their restrictions to the EU, such as Ukraine, Serbia and Turkey. There are still more countries and even US states to come. In addition, electrical and electronics companies should continue monitoring additional chemical restrictions and recycling requirements such as REACH, WEEE, POHS, etc.

# ENVIRONMENTAL PRODUCT SERVICES

## WEEE SERVICES

- Product disassembly and calculation of the recyclability, reuse, and recovery according to the IEC/TR 62635 standard
- Identify ecodesign recommendations to increase the recyclability and comply with WEEE directive in EU
- SGS can help create depollution/ disassembly instructions for recyclers
- Identify U.S. WEEE producers' responsibilities

## WRELATED CHEMICAL TESTING

SGS offers a comprehensive chemical testing package for products and materials covering other regulatory requirements, including REACH SVHCs, PAH, California Proposition 65, Food Contact tests, Toy Standards and EEE industry requirements such as Halogens, BFRs, Phthalates, Antimony, etc.

## REACH SVHC

Substances of Very High Concern (SVHC) are under the regulation of REACH and are planned to have new SVHCs added every 6 months. SGS offers cost-effective SVHC solutions in consulting, screening for identification and target quantification of identified substances.

## LIFECYCLE ASSESSMENT (LCA) & ECODESIGN

SGS conducts LCAs to help clients determine and understand the various impacts of their product (not just carbon footprint) across the whole product life cycle and identify where the greatest impacts (therefore areas for improvement) reside. Building on LCA and other metrics, SGS employs the systematic process of Ecodesign to allow clients to incorporate environmental aspects of a product, as well as customary stakeholder requirements, into product design and development for improved results.

## WHY SGS

SGS can conduct RoHS testing in over 28 laboratories worldwide. All SGS labs are ISO17025 accredited.

## SGS ADVANTAGES

- With over 90 years of experience, we have a deep understanding of hazardous substances
- We operate 28 accredited RoHS testing centres worldwide, staffed by over 1,000 RoHS specialists
- Rapid turnaround times
- Value-based pricing
- Technical assistance and key account management solutions

## SGS E&E EXPERTS

- Help you build sustainable and cost effective RoHS compliance strategies
- Perform compliance gap assessments and can help you implement industry best practices
- Provide third party verification services
- Help ensure consistent production processes
- Help educate your suppliers, staff and your customers on the risks posed by hazardous substances

## RoHS RELATED SERVICES

- Product Risk Assessments
- Process Gap Analysis and Consulting
- Full Product and Material Testing to IEC 62321 standards
- XRF Screening
- SGS RoHS Certificate of Conformity (CoC)
- Verification Services
- Training

SGS's RoHS solutions can be adapted to meet our customer's needs depending on their size, position in the supply chain, long term strategy and budget.

## CONTACT US

For more information on how our Hazardous Substances services can help you, visit us on: [www.sgs.com/ee](http://www.sgs.com/ee) or contact us at: [ee\\_global@sgs.com](mailto:ee_global@sgs.com).

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WHEN YOU NEED TO BE SURE

