



How to Ensure Your Products Meet Environmental Requirements in Europe

A White Paper Developed for
Electronics Companies

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Produced by EIATRACK and the Telecommunications Industry Association (TIA)

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With the now widely spreading RoHSⁱ, REACHⁱⁱ and WEEEⁱⁱⁱ regulations, Europe has led the way for such measures to be adopted across the globe. [EIATRACK](#), an online service developed to quickly and cost-effectively navigate the maze of environmental regulations and legislation worldwide, was created at the time that the European Union (EU) sparked these regulations. With widespread and trusted coverage of the region, the service not only provides updates to the promulgations still set, but also watches for the continuous amendments in the region. Read on to gain an overview of the challenging environment in the region that electronics companies must operate within as they strategize for, design, market and distribute their products.

The RoHS Directive

The European Union has adopted Directive 2002/95/EC on the restriction of the use of certain hazardous substances in **electrical and electronic equipment (EEE)**, also known as the RoHS Directive. The RoHS Directive's key provision bans the use of six substances in EEE. From July 1, 2006, new electrical and electronic equipment put on the market may not contain lead, mercury, cadmium, hexavalent chromium, **polybrominated biphenyls (PBB)** or **polybrominated diphenyl ethers (PBDE)**. National measures restricting or prohibiting the use of these substances in EEE adopted in line with EU law before the RoHS Directive's adoption, could be maintained until July 1, 2006, but would have to be abolished after that date.

The RoHS Directive, however, authorizes the European Commission to adopt maximum concentration limits for the six restricted substances. Pursuant to such maximum concentration limits, EEE may contain the six restricted substances in concentrations not exceeding the maximum limits. The Commission has adopted a limit of 0.1% by weight for all substances except cadmium, which is subject to a 0.1% limit. These limits are to be applied not to the whole EEE product, but to each homogeneous material separately.

There are some further exemptions from the RoHS substance restrictions. Importantly, an Annex to the RoHS Directive lists a series of exempted applications of restricted substances, which is regularly amended. There are limited exemptions for spare parts and reuse, and equipments that are part of other, non-EEE equipment or intended for military purposes.

The RoHS Directive is currently being reviewed. The substances covered by the directive are being reviewed and the Commission is considering whether additional substances should be added to the list of six. The Annex is also being reviewed. EIA TRACK continuously covers the updates and the ongoing discussions in the region.

The REACH Regulation

The REACH Regulation involves a regulation on the **Registration, Evaluation, Authorization, and restriction of Chemical Substances** (known by its acronym "REACH"), which extends the EU chemical law's scope from chemical substances in bulk to products containing chemicals, including EEE.

The REACH Regulation imposes requirements regarding data gathering and analysis and testing, chemical safety assessment, and reporting and communication. Notably, it imposes registrant- and use-specific registration and authorization requirements, and establishes a fast regime for imposing regulatory restrictions on chemicals of concern. To ensure compliance with the new regime, the regulation also

prescribes sanctions for non-compliance. Penalties would have to be "effective, proportionate, and dissuasive."

EEE producers and importers may have obligations under REACH in their capacity of (i) importers of chemical substances, (ii) importers of EEE, (iii) EU-based manufacturers of EEE, and (iv) downstream users in the production of EEE in the EU. REACH has

the most immediate impact on EEE that is designed to release chemicals, such as toner cartridges, and EEE that contains "substances of very high concern" (SVHC), which will be included in a list that is currently being developed.

REACH ... ESTABLISHES A FAST REGIME FOR IMPOSING REGULATORY RESTRICTIONS ON CHEMICALS OF CONCERN. THE REGULATION ALSO PRESCRIBES SANCTIONS FOR NON-COMPLIANCE.

The EuP Directive

The 2005 Directive on **Energy-Using Products** (the "EuP Directive") establishes a framework for the setting of eco-design requirements for such products. The directive entered into force on 11 August 2005 and had to be implemented by the Member States before 11 August 2007. The directive is up for review by 6 July 2010.

The EuP Directive is based on the "New Approach" to harmonization of technical standards and is the first piece of legislation implementing the Commission's Integrated Product Policy (IPP) strategy. The EuP Directive is regarded as a crucial factor in the EU's IPP because it constitutes a preventive approach, "designed to optimize the environmental performance of products, while maintaining their functional qualities."

The Directive constitutes a framework directive; products are not to be subject to eco-design or energy efficiency requirements until implementing measures (so-called "Commission Directives") have been issued. The directive itself does not create legal obligations for manufacturers. Under an implementing measure, manufacturers are required to perform an assessment of the environmental aspects of their products throughout their life cycle. They must use this assessment to evaluate alternative design solutions, with the aim of improving the environmental performance of their products.

Under the EuP Directive, the Commission is charged with drawing up a working plan of implementing measures setting specific standards for priority products. This plan was due by 6 July 2007 and is to be amended periodically. Despite the July 2007 deadline, however, the Commission did not release a draft working plan until October 2007.

In addition, the EuP Directive sets forth a list of "products (...) offering a high potential for cost effective reduction of greenhouse gases" for which implementing measures could be agreed upon before July 2007. The list includes lighting,

office equipment, heating equipment, domestic appliances, air conditioning and consumer electronics. By the terms of the EuP Directive, measures to reduce stand-by losses could also be agreed upon before July 2007. These priority product groups have been the subject of preparatory studies and will be among the first product groups to be regulated.

The Commission intends to adopt implementing measures for the following product groups:

- Tertiary-sector lighting equipment (covering both public street lighting and office lighting)
- Stand-by and off-mode electricity losses
- External power supplies
- Simple set-top boxes for digital reception of television signals

In 2009, the Commission also intends to submit implementing measures on:

- Televisions
- Domestic lighting
- Domestic refrigerators and freezers
- Washing machines
- Dishwashers
- Boilers and water heaters
- Computers
- Imaging equipment
- Commercial refrigerators
- Electric motors, pumps, fans, circulators
- Room air-conditioners

The draft 2009-2011 working plan sets forth the following indicative list of product groups, which exclude products already covered during the transitional period:

- Air-conditioning and ventilation systems;
- Electric and fossil-fuelled heating equipment;
- Food-preparing equipment;
- Industrial and laboratory furnaces and ovens;

THE EUP DIRECTIVE IS BASED ON THE "NEW APPROACH" TO HARMONIZATION OF TECHNICAL STANDARDS AND ...CONSTITUTES A PREVENTIVE APPROACH, "DESIGNED TO OPTIMIZE THE ENVIRONMENTAL PERFORMANCE OF PRODUCTS, WHILE MAINTAINING THEIR FUNCTIONAL QUALITIES."

- Machine tools;
- Network, data processing and data storing equipment;
- Refrigerating and freezing equipment;
- Sound and imaging equipment;
- Transformers;
- Water-using equipment.

The New Batteries Directive

The new EU Battery Directive 2006/66 of 6 September 2006 is aimed at harmonizing Member States' national laws, and at minimizing the negative impact of batteries and accumulators and their waste on the environment. It replaces the current battery legislation based on Directive 91/157, which is considered to have failed in adequately controlling the risks posed by waste batteries. Member States are required to transpose the new EU Battery Directive into national law by September 2008.

In order to protect the environment and eliminate confusion, the new EU Battery Directive applies to all batteries and accumulators placed on the market within the Community regardless of their shape, volume, weight, material composition or use, subject to limited exceptions. It applies also to EEE incorporating batteries.

The Battery Directive prohibits the placing on the market of all batteries or accumulators, whether or not incorporated into appliances, that contain more than 0,0005% of mercury by weight and portable batteries or accumulators, including those incorporated into appliances, that contain more than 0,002% of cadmium by weight. Member States are prohibited from impeding, prohibiting, or restricting the placing on the market in their territory of batteries or accumulators that meet the requirements of the Directive.

Button cells with a mercury content of no more than 2% by weight are exempt from the Directive. Additional exemptions for the batteries or accumulators that contain more than 0,002%

of cadmium by weight are provided for emergency and alarm systems, including emergency lighting, medical equipment, and cordless power tools.

The Directive requires that manufacturers design appliances to make batteries and accumulators easily removable with instructions for the end-user on how they can be safely removed. Batteries must be labeled to show the "crossed-out wheeled waste bin" symbol, the battery's capacity (for portable and automotive batteries), and, in some cases, for heavy metal content.

Battery distributors in the EU are required to take back waste batteries from consumers at no extra charge. Treatment and recycling schemes must be established by September 2009. Member States must also meet the binding recycling targets for general consumer batteries of 50% by September 2011.

Producers and importers of batteries and appliances incorporating batteries must finance the costs of collection, treatment and recycling

of waste batteries and accumulators, as well as the costs of public information campaigns on the treatment and recycling. They must also register with the Member States. Exemptions for small producers from financing may be granted if it does not impede the functioning of the collection and recycling schemes.

Further, the Directive sets forth requirements for Member

States to work with manufacturers in their territory to increase environmental performance through the promotion of research and encouragement of improvements in the environmental performance, developing and marketing of batteries and accumulators which are safer for the environment.

The WEEE Directive

Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (the "WEEE Directive") imposes on

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producers and distributors "take-back" and recycling obligations, and related obligations in respect of waste of electronic and electrical equipment (WEEE) and electrical and electronic equipment (EEE). The scope of application of the WEEE Directive is broad; it covers common electrical and electronic equipment (EEE), but provides for some exemptions.

The Directive distinguishes WEEE from households and WEEE from other sources, and deals with take-back obligations and financial responsibility separately. In summary, it imposes requirements with respect to (1) product design, (2) separate collection, (3) treatment, (4) recovery, (5) financing, and (6) marking, information, and reporting.

Annex 1A sets forth the following list of categories of "electrical and electronic equipment" that are subject to the WEEE Directive:

- Large household appliances
- Small household appliances
- IT & Telecommunication equipment
- Consumer equipment
- Lighting equipment
- Electrical and electronic tools, excluding large-scale stationary industrial tools
- Toys, leisure, and sports equipment
- Medical devices, excluding all implanted and infected products
- Monitoring and control instruments
- Automatic dispensers

Annex 1B to the Directive sets forth a list of more specific product groups falling under each of these categories. The list is generally regarded as non-exhaustive. As the Commission puts it, at least the specific type of equipment quoted in Annex 1B falls within the scope. "Since this list is non-exhaustive, Member States could in principle include other products in national legislation implementing the WEEE Directive, if they choose," according to the Commission.

There are some exemptions to the WEEE Directive's scope. These exemptions include (1) EEE that is part of another type of equipment

that does not fall within the WEEE Directive's scope, (2) equipment which is connected with the protection of the essential interests of the security of the Member States, arms, munitions and war material, excluding, however, products which are not intended for "specifically military purposes," (3) large-scale stationary industrial electrical and electronic tools, and (4) implanted and infected medical devices.

The WEEE Directive is currently being reviewed and amendments will likely be proposed in 2009.

EIATRACK—Enabling You to Stay Current With Legislation and Regulation

Where does all this leave the manufacturer? From the early stages of planning and design, a product manufacturer must ensure that all components and materials being used to create the product, and the packaging and labeling of the product, specifically adhere to the various regulations depending on where the product may end up.

THE WEEE DIRECTIVE IMPOSES REQUIREMENTS WITH RESPECT TO PRODUCT DESIGN, SEPARATE COLLECTION, TREATMENT, RECOVERY, FINANCING, AND MARKING, INFORMATION AND REPORTING.

It can be bewildering and challenging to comply with the varied approaches taken by the European Union and non-member states as well. The EU updates and amends the regulations put in place often. With a strict enforcement stance, your company does not want to

be left unknowingly negligent in terms of European Regulations.

EIATRACK presents an excellent tool to help manufacturers, retailers, distributors, and recyclers identify important proposed laws and keep up with newly-enacted requirements in Europe. Within a company, those that must be familiar with these requirements include sales, marketing, legal, engineering, design and environmental departments. EIATRACK was created with the assistance of electronics companies to help their personnel meet the challenges. With the law firm of Hunton and Williams tracking legislative actions throughout Europe, EIATRACK stays current with changes

in regulations that may affect the way your product is made or what markets it can enter.

In addition to Europe, EIATRACK covers regulations the world over with the help of regional legal and technical experts. Users of EIATRACK also participate in regional councils

to provide up-to-date information on necessary additions and changes.

Full information and free trials and demos are available by contacting EIATRACK at efarmer@eiatrack.org or +1.703.907.7582.

EIATRACK

EIATRACK, the global benchmark in environmental intelligence and product-oriented regulatory tracking, is owned by the Telecommunications Industry Association (TIA).

About TIA

The Telecommunications Industry Association (TIA) represents the global information and communications technology (ICT) industry through standards development, advocacy, tradeshow, business opportunities, market intelligence and world-wide environmental regulatory analysis. With roots dating back to 1924, TIA enhances the business environment for broadband, mobile wireless, information technology, networks, cable, satellite and unified communications. Members' products and services empower communications in every industry and market, including healthcare, education, security, public safety, transportation, government, the military, the environment and entertainment. TIA co-owns the [SUPERCOMM®](#) tradeshow and is accredited by the [American National Standards Institute](#) (ANSI).

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ⁱ **RoHS** stands for Restriction of Hazardous Substances. The Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment 2002/95/EC, commonly referred to as the Restriction of Hazardous Substances Directive or RoHS, was adopted in February 2003 by the European Union. The RoHS directive took effect on 1 July 2006, and is enforced in each member state.

ⁱⁱ **REACH** stands for Registration, Evaluation, Authorization and Restriction of Chemical Substances. The new EU chemicals legislation, REACH, was formally published at the end of 2006 and entered into force on June 1st 2007. REACH is set to drive major changes both in the global chemicals industry and in any industry that uses or processes chemicals. It will affect organisations at every point of a production chain, from chemical

manufacturers to chemical distributors to companies assembling products from component parts.

ⁱⁱⁱ **WEEE** stands for Waste of Electronic and Electrical Equipment. First regulated in Europe, it has spread globally. EIATRACK covers existing and newly emerging WEEE legislation and regulatory changes. The WEEE Directive is the European Community directive 2002/96/EC on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive 2002/95/EC, became European Law in February 2003, setting collection, recycling and recovery targets for all types of electrical goods.