

The Restriction of Hazardous Substances (RoHS) Directive

- enforcement in the UK and across Europe

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Outline

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1. Introduction – the role of the DTI

- The UK **Department of Trade & Industry (DTI)** – roughly equivalent to the US Department of Commerce
- The **DTI** promotes enterprise, innovation and increased productivity
- **Sustainable Development (SD) Directorate** responsible for policies that protect the environment in the most efficient and pragmatic way
- **SD** led the UK negotiating team on the WEEE and RoHS Directives and is responsible for their implementation

2. RoHS Directive - Overview

- An Article 95 (Single Market) Directive
- Seeks to reduce the environmental impact of EEE at end of life
- Products which do not comply **cannot** be placed on the EU market
- Complementary to the WEEE Directive

RoHS Directive - Requirements

- From **1 July 2006**, new electrical and electronic equipment put on the market should not contain more than the permitted levels of...
 - Lead
 - Mercury
 - Hexavalent Chromium
 - Cadmium
 - Polybrominated Biphenyls (PBB)
 - Polybrominated Diphenyl Ethers (PBDE)

RoHS Directive – Scope

All equipment dependent on electrical currents or electromagnetic fields in 8 indicative categories:

1. Large Household Appliances
2. Small Household Appliances
3. IT / Telecommunications
4. Consumer Equipment
5. Lighting Equipment
**including electric light bulbs
and household luminaires**
6. Electrical and Electronic Tools
7. Toys, Leisure & Sports
8. **Medical Devices**
9. **Monitoring and Control
Instruments**
10. Automatic Dispenser

3. RoHS - Maximum Concentration Values

- Agreed permitted levels* (published 19 August 2005):
 - 0.1% for lead (Pb), hexavalent chromium (CrVI) and mercury (Hg)
 - 0.01% for cadmium (Cd)
 - 0.1% for PBBs and PBDEs
- “By weight in homogeneous materialsshall be tolerated”

(* unless used in an exempted application)

RoHS – MCV Definitions

(EC Workshop held in London: July 2004)

- *‘Homogeneous Material’* – a material that cannot be mechanically disjointed into different materials
- *‘Homogeneous’* – of uniform composition throughout
- *‘Mechanically Disjointed’* – mechanical actions such as unscrewing, cutting, crushing, grinding and abrasive processes

4. Compliance Approach

UK study (for the TAC) published in April 2004. It looked at: -

- Self certification by manufacturers
- Compliance testing
- Reporting Formats
- Exchange of Information amongst Member States

This approach in UK RoHS guidance

Self certification by manufacturers

- Used for many EU New Approach Directives
 - Products placed on market presumed to comply with the RoHS Directive
 - Enforced by market surveillance
- “Declaration” can be challenged by the enforcement body
 - if so, producers will need to demonstrate they have taken “reasonable steps” to comply

Standards for compliance testing


- No obligation placed upon producers to undertake product or component testing, but.....!
- A few suitable analysis standards already exist
- Analysis is possible without new standards
 - Several possible analysis methods exist
 - **ERA Warning** - some techniques can give inaccurate or misleading results!

Standards on reporting formats

Industry voluntarily working on several approaches

- Possible declarations of conformance
- Materials declarations with composition data
- Web-based databases
- Standardised markings & part numbering

Product Content Sheet

Package family	P-DSO					
Date	3. March 2003					
Version	1.3					
Construction element	Material group	Materials	CAS if applicable	Average mass [%] *	Sum [%]	Traces
Chip	Inorganic compounds	Silicon	7440-21-3	3.62	3.62	
Die attach	Polymer	EP	-	0.06	0.23	x
	Noble metal	Silver	7440-22-4	0.17		
Diepad plating	Noble metal	Silver	7440-22-4	0.37	0.37	
Leadframe	Copper alloy	Copper	-	38.66	39.68	
		Iron	-	0.95		
		Phosphor	-			x
		Zinc	-			x
Wires	Noble metal	Gold	7440-57-5	0.43	0.43	
Encapsulation	Inorganic compounds	Silicon dioxide	60676-86-0	40.23	55.12	
	Polymer	Brominated EP	-	0.83		
	Inorganic compounds	Diantimony trioxide	1309-64-4	0.83		
	Polymer	EP	-	13.23		
Leadfinish	Nonferrous metal	Tin	-	0.47	0.55	
	Nonferrous metal	Lead	-	0.08		x
Sum in total:					100.0	

Marking examples (IPC draft)

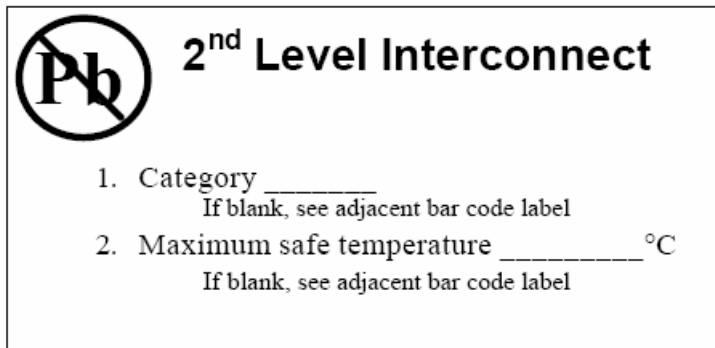


Figure 2 – 2nd Level Interconnect label



Figure 3 – Pb-Free identification label



Figure 4 – Pb-Free symbol

Exchange of information amongst EU Member States

- EU Member States will share analysis expertise and market intelligence
- This will save costs and help avoid conflicts
- UK/EICTA Workshop - 19 May 2005
Results presented to the TAC - 6 July 2005
Draft guidance - to be circulated Autumn 2005

5. UK Enforcement

- NWML appointed 1 July 2005
- Will work with producers and adopt a collaborative approach
- Will establish a dedicated RoHS enforcement website
- Will have a range of enforcement powers related to
 - test purchases; technical documentation; inspecting processes; testing; compliance notices; and (as a last resort) prosecution powers

6. Future Timetable

- Most EU Member States have published their legislation, others currently finalising
- UK draft Regulations and guidance published for consultation - July 2004. (Revised guidance issued August 2005)
- UK Regulations due later this month
- Substances Restrictions – from **1 July 2006**

Summary

- Article 4 of RoHS requires EU Governments to ensure that goods placed on the market comply
- The UK is seeking to secure agreement on a common approach across the EU – reflected in UK guidance
- EU Guidance will be made available to the enforcement bodies and published for industry
- Self-certification offers an efficient, established and cost-effective way forward

**Remember - timescales are getting
very short**

*Now less than nine
months to 1 July
2006!*

7. Contacts for further advice

- **Europa** website -
http://europa.eu.int/comm/environment/waste/weee_index.htm
- **AeA** (the American Electronics Association)
www.aeanet.org
- **EICTA** (European Industry Association: Information Systems, ICTs, Consumer Electronics)
www.eicta.org
- **NWML** (UK RoHS Enforcement Agency)
www.rohs.gov.uk

Thank you!

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