

# **The Restriction of Hazardous Substances in electrical & electronic equipment (RoHS) Directive**

presented by Steve Andrews

UK Department of Trade & Industry

# Outline

1. Introduction – the role of the DTI
2. RoHS Directive – Overview
3. Key issues – *Maximum Concentration Values; Exemptions; Compliance; UK Enforcement*
4. Summary
5. Contacts for further advice

# 1. Introduction – the role of the DTI

- The UK **Department of Trade & Industry** (DTI) – roughly equivalent to the Ministry of Information Industry
- The **DTI** aims to promote enterprise, innovation and increased productivity in four priority areas:
  - Transferring knowledge;
  - Maximising potential in the workplace;
  - Extending competitive markets; and
  - Strengthening regional economies

## SD&R Directorate

- The DTI's **Sustainable Development & Regulation Directorate** (SDRD) works with industry stakeholders on policies that protect the environment in the most efficient and pragmatic way
- **SDRD** led the UK negotiating team on the WEEE and RoHS Directives in Brussels and represents the UK on the Technical Adaptation Committee
- **SDRD** also has responsibility for other Producer Responsibility initiatives – ELV, Batteries and P&PW Directives

## 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, but different legal base

# RoHS Directive - Requirements

From **1 July 2006**, new electrical and electronic equipment put on the EU market should not contain more than the permitted levels of...

- Lead (Pb)
- Mercury (Hg)
- Hexavalent Chromium (CrVI)
- Cadmium (Cd)
- 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 & Telecommunication Equipment
4. Consumer Equipment



# RoHS Directive – Scope

5. Lighting Equipment (including electric light bulbs and household luminaires)
6. Electrical and Electronic Tools
7. Toys, Leisure & Sports Equipment
8. Automatic Dispensers





## Outside Scope

- **WEEE** Categories 8 (Medical Devices) and 9 (Monitoring & Control Instruments) are **not covered** within the scope of the RoHS Directive.....
- .....but position currently being reviewed!
- Also ‘not covered’:
  - Large-scale stationary industrial tools; equipment for national security and/or the military; and batteries

## 3. Key Issues

- Maximum Concentration Values (MCVs)
- Exemptions
- Compliance
- UK Enforcement

# Maximum Concentration Values

- Agreed permitted levels\* (published 19 August 2005):
  - 0.1% for lead, hexavalent chromium and mercury
  - 0.01% for cadmium
  - 0.1% for PBBs and PBDEs
- “By weight in homogeneous materials .....shall be tolerated”

(\* unless used in an exempted application)

## Maximum Concentration Values

- *'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

Reflected in EC's "FAQs", but note that this is a **guide** to the interpretation of the Directive, **not** to analysis methods where chemical separation might be considered.

# Exemptions

- ‘Spare parts’ - used for the repair or reuse of electrical and electronic equipment put on the market before 1 July 2006
- Exemptions listed in Annex and the Commission Decisions of 13 & 21 October 2005 and 21 April 2006
- Plus others recently approved and others still under consideration

## Exemptions – still being considered\*

\*under Öko-Institut contract with DG Environment

<b>Batch</b>	<b>No. of Requests</b>	<b>Consultation Ended</b>
3 <sup>rd</sup>	22	11 February 2005
4 <sup>th</sup>	23	28 October 2005
5 <sup>th</sup>	15	10 February 2006
6 <sup>th</sup>	23	15 May 2006

## TAC 'Written' Vote – June 2006

- Lead and cadmium in printing inks for the application of enamels on borosilicate glass.
- Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with NiFe lead frames and lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm or less with copper lead-frames.
- Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors.

## TAC 'Written' Vote – June 2006

- Lead oxide in plasma display panels (PDP) and surface conduction electron emitter displays (SED) used in structural elements.
- Lead oxide in the glass envelope of Black Light Blue (BLB) lamps.
- Lead alloys as solder for transducers used in high-powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers.



## TAC Votes – 26 June 2006

- Hexavalent chromium in corrosive preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1 July 2007.
- Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC

# RoHS - Compliance

The RoHS Directive restricts the use of six substances but does not specify:

- how Member States might enforce its requirements;  
**or**
- how industry might demonstrate compliance

## UK Compliance Study

- UK study (for the TAC) on compliance approaches was published in April 2004 and covered: -
  - Self certification by manufacturers
  - Industry standards on reporting formats
  - Industry standards on compliance tests
  - Exchange of Information amongst Member States

## 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 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



# RoHS Compliance *Logo Examples*

- ✓ Nickel-Palladium-Gold RoHS Compliant Solutions (no "Tin Whiskering")
- ✓ Unique Part Numbers in addition to Standard Part Numbers
- ✓ Easy Access to Material Content Information



Download Micron's  
**RoHS Certificate of Compliance**  
Click to download ▶



**RoHS** we're ready...are you?  
BSI  
RoHS TRUSTED



RoHS Trusted  
KM 502686

# Standards for compliance testing

- No legal 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
  - **Warning** - some techniques can give inaccurate or misleading results!

# Exchange of information amongst Member States

- The Enforcement Authorities of each EU Member State will share analysis expertise and market intelligence
- This will save costs, help avoid conflicts and ensure a 'level-playing field' for industry



# EU Compliance Network

- UK/EICTA Workshop - 19 May 2005
- Enforcement Bodies Informal Network Inaugural Meeting – London, 27 January 2006
- Guidance Document – published May 2006
- Draft Manual of Decision – hope to publish Autumn 2006

# **RoHS Enforcement Guidance Document**

Version 1 – issued May 2006

**This Guidance Document has been developed through discussions within the “EU RoHS Enforcement Authorities Informal Network”.**

**It should be noted that the document is informative and advisory, but has no legal authority.**

**Individual Member State RoHS enforcement authorities are bound by their own national legal structures and can only apply this guidance within the confines of those structures.**

# Guidance Document – Contents

- Introduction: *Aims, Objectives, Principles & the Enforcement Process*
- RoHS Compliance Documentation
- Sample & Testing Issues

# Guidance Document - Outline

**Informative and advisory**, it outlines.....

- ...the **principles** to support RoHS enforcement;
- ...the documentation that ‘producers’ should keep;
- ...how enforcement bodies **might** use such documentation to check for RoHS compliance – (Routes A and B);
- ...how sample preparation and analytical testing **could** be employed (*if necessary*).

## UK Enforcement

- NWML were appointed 1 July 2005
- Has adopted a collaborative approach with industry
- Has established a dedicated RoHS enforcement website – [www.rohs.gov.uk](http://www.rohs.gov.uk)
- Has a range of enforcement powers related to
  - test purchases; technical documentation; inspecting processes; testing; compliance notices; and (as a last resort) prosecution powers

# NWML's Enforcement Approach



## 4. Summary

- The RoHS Directive is now in force across the EU!
- All Member States have their own legislation
- UK Regulations and Guidance were re-issued in June 2006, (SI 2006 No. 1463)
- Consideration of additional exemptions continues
- Guidance is available from the DTI, the European Commission and some other Member States

## 5. Contacts for further advice

- **DTI** website -

[www.dti.gov.uk/innovation/sustainability](http://www.dti.gov.uk/innovation/sustainability)

- **Europa** website –

[http://ec.europa.eu/environment/waste/weee\\_index.htm](http://ec.europa.eu/environment/waste/weee_index.htm)

- **NWML** (UK RoHS Enforcement Agency) –

[www.rohs.gov.uk](http://www.rohs.gov.uk)



*Thank you!*

Steve Andrews  
Sustainable Development & Regulation Directorate  
Department of Trade & Industry  
151 Buckingham Palace Road  
London SW1W 9SS  
United Kingdom

Email - [sustainability@dti.gsi.gov.uk](mailto:sustainability@dti.gsi.gov.uk)

Website - [www.dti.gov.uk/innovation/sustainability](http://www.dti.gov.uk/innovation/sustainability)