RoHS Recast (RoHS2) and beyond … 2011/65/EU

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RoHS Recast - Agenda

- Definitions
- Exemptions & exclusions
- Product categories
- Supply Chain obligations
- CE Documentation
- Restricted substances
## RoHS Recast vs RoHS1

<table>
<thead>
<tr>
<th></th>
<th>RoHS1</th>
<th>2002/95/EC</th>
<th>RoHS Recast</th>
<th>2011/65/EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six restricted substances</td>
<td>None</td>
<td>No change yet, but will be reviewed by 22 July 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope – primary function</td>
<td>Scope – at least one intended function</td>
<td>Categories 8, 9 and 11 will be phased in 2014-2019 (11 categories in total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Categories in scope</td>
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<td>Categories 8, 9 and 11 will be phased in 2014-2019 (11 categories in total)</td>
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</tr>
<tr>
<td>Exemptions Annex</td>
<td>Exemptions Annex III (*categories 1 to 11)</td>
<td>Exemptions Annex IV (*categories 8 and 9 only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ad-hoc symbols allowed on equipment to denote compliance</td>
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<td>CE mark will denote compliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied to product placed on EU market from 1 July 2006</td>
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<td>Phased in approach with various dates out to 2019</td>
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</tbody>
</table>
RoHS recast – Timings

• 2 Jan 2013
  – Added to Official Journal 1 July 2011
  – Member States have 18 months to transpose into national law

• 22 July 2014
  – Medical devices
  – Consumer monitoring and control instruments

• 22 July 2016
  – In Vitro Diagnostics (IVD)

• 22 July 2017
  – Industrial monitoring and control instruments

• 22 July 2019
  – Category 11
  – Other equipment (newly included EEE except categories 8 & 9)
RoHS – 6 restricted substances

• Restricted substances
  – 0.1% by weight in “homogeneous materials” for lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers
  – 0.01% by weight in “homogeneous materials” for cadmium

• What is a “homogeneous material”? 
  – “a unit that cannot be mechanically disjointed (by cutting, grinding, crushing etc) into single materials – such as plastic, ceramics, glass and metal”
Product Categories

- Large household appliances
- Small household appliances
- IT and telecommunications equipment
- Consumer equipment
- Lighting equipment
- Electrical and electronic tools
- Toys, leisure and sports equipment
- Medical devices – *from 2014*
- Monitoring and control instruments – *from 2014*
- Automatic dispensers
- All EEE not captured in the above – *from 2019*
Scope - Definitions

“Electrical and Electronic Equipment - dependent”

- **EC old FAQ** – dependent on electric current or electromagnetic fields for its primary function
- **Recast** – dependent on electric currents or electromagnetic fields to fulfil at least one intended function
Category 11

• What is in category 11?
  – Safes with electronic locks
  – Electrically heated clothing
  – Electric sockets and light switches
  – Wardrobe with interior lights

• Equipment brought into scope because of change of “dependent” definition is not necessarily in category 11
  – Gas cooker with electric clock = category 1 from July 2019
  – Petrol Lawnmower = category 6 from July 2019

• Some Member States already include certain types of equipment with minor electrical functions (e.g. talking teddy bears or flashing running shoes)
Development Boards – “dev kit”

- Sold to engineers to help with design of new products
  - Many different types, each has specific functions
  - Such as Raspberry Pi
  - R-Pi Foundation considered out of scope
  - Plugs in to PC so in scope – view of all Member States

- Enforcement authorities regard these as being finished equipment and most are category 3 – single board computers
  - Finished equipment – not defined by RoHS directive but official EU guidance (blue guide) states that compliance obligations begin when all assembly and packaging is complete and it is ready for supply to the end-user
  - Supplied as a “bag of bits” also in scope
Consumables and Spare Parts

- The Recast FAQ document states:
  
  "Consumables that have no equipment constituent, such as soap powder or vacuum cleaner bags, are not equipment and therefore are not in the scope of RoHS2. Only consumables with an equipment constituent meeting the definition of EEE in Article 3 (1) and 3 (2) - Definition of Scope - such as printer cartridges are EEE and within the scope of RoHS2"

- Accessories supplied with EEE are part of EEE and so should comply

- Spare parts excluded if used in equipment POTM before the date that its category was included into scope

- No spare part exclusion for Category 11
New Scope includes Cables

- Cables are specifically included in scope (see FAQ5)
  - A cable supplied with a product is part of the product
  - Cables sold separately and designed for a specific purpose are already in scope, e.g. ethernet cables are IT products so in category 3
  - Multi-use (ready to use including extension cords and multiple sockets) cables are excluded from scope in some EU States but in category 2 in others.
Scope - Exclusions

1. Military equipment
2. Equipment designed to be sent into space*
3. Equipment designed and installed as part of another type of equipment not within scope
4. Large-scale stationary industrial tools
5. Large-scale fixed installations
6. Means of transport
7. Non-road mobile machinery for professional use
8. Active implantable medical devices
9. Photovoltaic panels
10. R&D equipment only available on B to B basis

- Space defined as 100km above sea level (FAQ7.2)
- Weather balloon captured (Category 9)
Exclusions – Article 2.4c

• Recast Directive excludes:
  - “Equipment which is specifically designed and is to be installed as part of another type of equipment that is excluded or does not fall within scope of this directive, which can fulfil its function only if it is part of that equipment and which can be replaced only by the same specifically designed equipment”

• This means that, if electrical equipment is designed to be used as an integral part of an excluded product such as a large-scale stationary industrial tool (LSIT) but it can be replaced by a different model (i.e. a different model or design) then that specific equipment is not excluded from scope.
RoHS – Article 2.2

• Article 2.2
  – Non-compliant EEE that was outside the scope of RoHS1, but within the scope of RoHS2, may continue to be made available on the market until 22 July 2019
  – Categories 8, 9, 11 and anything previously excluded (fuse boxes, light fittings etc)

• Non – compliant EEE on the market CANNOT be sold after 22nd July 2019

• Entire supply chain must be cleansed by July 2019

• Under review by the EC at TAC meetings – expect a (revised) proposal
RoHS Impact Assessment & Review

- Impact assessment and review of scope
  - If appropriate, further exclusions will be added to the open scope

- Review of restricted substances – 4 priority substances BBP, DBP, DEHP and HBCDD

- Based on REACH risk assessment rather than RoHS hazard and substitutes

22nd July 2014
Finished Product and Components

• RoHS Recast applies to finished products which need:
  – Compliance with material restrictions
  – CE mark
  – Declaration of Conformity (DoC)
  – Technical File

• Components are not directly in scope but need to:
  – Comply with material restrictions if used in finished product within the scope of RoHS
  – Do not need their own CE mark, DoC or technical file
Symbols replaced by the CE Mark

• Do you recognise any?
  – Many ad-hoc RoHS symbols have appeared since 2006
Ad-hoc RoHS symbols

- Popular question but still uncertainty which type of logos will be permitted
  - BIS first raised in their UK road shows
  - CE mark will denote compliance
- NMO has requested clarity from the Commission
- Consultant view is that ad-hoc RoHS symbols will not be allowed
Exemptions

- Recast includes new Annex IV for category 8 and 9 EEE only
  - Annex III applicable to all EEE (lasts up to 5 years from 21 July 2012)
  - Annex IV applies only to categories 8 & 9 (lasts up to 7 years after date entering scope)
  - All exemptions will expire automatically unless renewed
  - Applications for renewal must be made at least 18 months before expiry to guarantee a decision before expiry date
CE Marking

• CE mark is a declaration by the manufacturer that the product is in scope of all CE marking directives (when POTM in EU)
• CE must be affixed visibly, legibly and indelibly on the product
  – The size of the mark must be at least 5mm
  – Very small or very large products allowed to use different size
• If not sufficient room the CE mark should go on the packaging and / or accompanying documents
Declaration of Conformity

- Manufacturer is responsible for a single declaration covering all CE mark directives that apply to the product
  - Format described in Decision 768/2008
  - Also described in Annex VI of Recast 2011/65/EU
    - Model number / unique identifier
    - Name and address
    - Object of the declaration (may include a photograph)
  - Must keep the DoC for 10 years
  - Includes details of legislation complied with
  - Includes list of standards used
  - Signed by a corporate authority
Standards (voluntary)

• EN50581
  Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances. Covers material declarations, chemical analysis and looks at trustworthiness of suppliers

• EN62474
  Describes the procedures for generating material declarations for products

• EN62321
  Procedures for testing of the 6 regulated substances including XRF as well as more accurate analysis. Under review and future revision will include the analysis of phthalates (including REACH SVHCs)
RoHS Recast - *Who is responsible?*

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Manufacturer</th>
<th>Importer into EU</th>
<th>Distributor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure RoHS substances absent</td>
<td>Yes</td>
<td>Check</td>
<td>Check</td>
</tr>
<tr>
<td>Procedures to ensure on-going conformity</td>
<td>Maintain</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Conformity assessment</td>
<td>Perform</td>
<td>Check done</td>
<td>No</td>
</tr>
<tr>
<td>Technical file</td>
<td>Compile and keep</td>
<td>Check OK</td>
<td>x</td>
</tr>
<tr>
<td>DoC</td>
<td>Provide and keep</td>
<td>Check and keep</td>
<td>Check</td>
</tr>
<tr>
<td>CE mark</td>
<td>Affix</td>
<td>Check</td>
<td>Check</td>
</tr>
<tr>
<td>Register of nonconforming /recalls</td>
<td>Maintain and inform</td>
<td>Maintain and inform</td>
<td>No</td>
</tr>
<tr>
<td>Product identification</td>
<td>Affix</td>
<td>Check</td>
<td>Check</td>
</tr>
<tr>
<td>Manufacturer identification</td>
<td>Affix own</td>
<td>Affix own</td>
<td>Check</td>
</tr>
<tr>
<td>If reason to think may contain RoHS substance above permitted limit</td>
<td>Do not POTM. Withdraw or recall and inform MSA</td>
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<td>Do not POTM. Withdraw or recall and inform MSA &amp; mfr/importer</td>
</tr>
<tr>
<td>Request from MSA</td>
<td>Cooperate</td>
<td>Cooperate</td>
<td>Cooperate</td>
</tr>
</tbody>
</table>

- **Note**: Importer or distributor treated as manufacturer if they place on the market (POTM) under own name/trademark or modify EEE substantively.
- **Green = same, Pink = new, Blue = already in place as per other CE mark directives**
Conclusions

• Recast RoHS Directive
  – Open scope with exclusions
    • Phased in approach Categories 8, 9 and 11
  – Review of scope / exclusions by 22 July 2014
  – Review of additional substance restrictions by 22 July 2014
  – CE mark directive
    • Compliance with material restrictions
    • CE Mark
    • Declaration of Conformity
    • Technical File
Question and Answer

Question: Surely small PCBs without an enclosure are not in scope?
Answer: This is a view taken by some manufacturers but all Member State Enforcers agree that boards, such as Raspberry Pi, are “finished equipment” and are in scope of the Recast

Question: Can I still demonstrate the compliance of my equipment as before by using my own symbol?
Answer: No, the CE mark will denote compliance with the RoHS Recast

Question: How can a gas cooker be in scope of a directive aimed at electrical and electronic equipment?
Answer: With the scope relating to “dependent” changing from “primary function” to at least “one intended function”…..the cooker has an electric clock
Question: Do components have to be CE marked?
Answer: No, the CE mark should be affixed to finished EEE.

Question: Are exemptions granted per company, equipment or application?
Answer: Exemptions are granted for a specific application and not for the EEE or a company. Whoever uses the substances in the specific application can benefit from the exemption.

Question: What is the difference between the RoHS and REACH approach to substance restriction?
Answer: The preferred method is the REACH approach that is based on lengthy risk assessment rather than RoHS which looks at hazards and substitutes.
Question and Answer

Question: What about consumables?
Answer: Consumables with an electrical function, such as ink-jet cartridges are in scope of the RoHS Recast

Question: Are accessories in scope?
Answer: Accessories supplied with electrical and electronic equipment (EEE) are part of the EEE and so should comply

Question: What are the four possible new restricted substances?
Answer: The substances for priority assessment before July 2014 are DEHP, BBP and DBP which are all plasticisers (plastic softeners) and HBCDD which is a flame retardant
Question and Answer

Question: What do I need to include in my technical documentation?
Answer: Important this is drawn up in line with Module A of Annex II of Decision 768/2008/EC (common framework for the marketing of products)

Question: What does the CE mark mean in respect to restricted substances under RoHS2?
Answer: EEE in scope that bears a CE mark is presumed not to contain any of the restricted substances above permitted values. The CE mark will be the only mark denoting compliance to RoHS2

Question: Does the R&D exclusion capture semiconductor development boards?
Answer: In general no. All Member States agree that such tools are in scope. Excluded would be custom made product for a specific or small number of clients involved in scientific research or prototype product development
Gary Nevison

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