



China RoHS Directive compliance information:  
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# China RoHS Directive – Legislation Compliance

October 2011

- Declaration & Restriction
- Scope
- Packaging
- Differences to EU RoHS
- First Catalogue
- China RoHS2

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## RoHS in China

- Measures for the Administration of the Control of Pollution (caused) by Electronic Information Products... "China RoHS". This is the over-arching legislation but the details of what is required and how to comply is covered by other legislation (implementation rules) and by official standards. Standards are still be prepared existing standards updated for this legislation in 2011. These include new standards for marking equipment, risk assessment for hazardous substances and a new standard for the concentration limits. New implementation rules for "voluntary" certification of products are also being developed and are planned to enter force in late 2011.
- Original deadline: Products manufactured since 1st March 2007
- Applies to products imported into China for sale in China and –
- Products manufactured in China and sold in China but **excludes**:
- Imported into China for re-export or manufacturing of products for export
- Will usually exclude components sold to an OEM who use in their own products
- Hong Kong and Taiwan
- China RoHS has some provisions not found in EU RoHS
- Wider product scope
- Priority products catalogue
- Variable enforcement dates by product
- Labelling (including packaging)
- Compulsory testing and certification for catalogue products

## China RoHS – Stage 1: Declaration

### All "Electronic Information Products" (EIP)

- Over 1800 listed
- "Put On The Market": All products manufactured on, or after 1st March 2007:
  - 6 restricted substances
  - Must be labelled with "Pollution (recycling) Control Symbols"
- Symbol 1.\* **No restricted substances** symbol (above permitted levels)
- Symbol 2.\* **Specified hazardous substances** symbol (above permitted levels) **plus other information**:
  - Environmentally Friendly (safe use) Period (number of years) See page 4.
  - Disclosure table highlighting toxic and hazardous substances and their location in the product. See pages 7 and 8.

\*Note: Marking on packaging required in both cases.

There are proposals to broaden the scope to include all types of electrical and electronic equipment

## China RoHS – Stage 2: Restriction

### Products included in "The China RoHS Catalogue"

- The Catalogue (reviewed periodically) will define:
  - Substance restrictions (some, all, or even more than the current 6 EU restricted substances)
  - Define exemptions by product
  - Determine when each category has to comply allowing time for:
    - Testing via an authorised Chinese lab
    - Accreditation of China Compulsory Certificate (CCC)
- If product is not specifically listed in catalogue
  - No testing or certificate required
  - No substance restrictions
  - First draft catalogue published 9th October 2009, some 2 years later than expected (see page 7).
  - First draft covers telephones and printers

## Stage 2: Information

10 Categories:

1. **Electronic radar products** – includes airborne and ship borne radar
2. Electronic communication products – e.g. transmitters, **navigation**, telephones, base stations
3. Broadcast television equipment industry products – transmitters, camcorders, antennas
4. Computer products – all types of computers, network equipment, printers, power supplies, **CDs, toner cartridges**, etc.
5. Household electronic products – TV, DVD, **video tapes, CDs**, etc
6. **Electronic measuring instrument products** – test equipment, meters, etc.
7. Electronic industry professional equipment products – includes **production equipment for EIPs**, soldering tools, electric and air tools
8. **Electronic component products** – passives, PCBs, sensors, connectors, switches, loudspeakers,
- 8a. **Electronic device industry** – vacuum tubes, diodes, semiconductors, ICs, electronic circuits, wire and cables, lamps and batteries
9. Electronic application products – household equipment (games, microwave ovens), **medical**

10. **Electronic professional use material products – materials used in components, solder, laminates, etc.**

\* Orange text indicates products not currently within scope of EU RoHS directive but some such as electronic measuring instruments and medical devices will enter scope as a result of changes made by the recast directive.

- All EIPs – marking requirements apply to:
  - Lead
  - Cadmium
  - Mercury
  - Hexavalent chromium
  - Polybrominated biphenyls (PBB)
  - Polybrominated diphenyl ethers (PBDE) but not Deca-BDE (unlike the EU RoHS directive)
  - Equipment listed in catalogue – substance restrictions will include some or all of these six, this will be specified – plus it is possible that other substances will be announced by State

## Substance use information requirements

## Classification of materials/maximum permitted values

Type	Definition
EIP - A	Each homogeneous material in EIPs – All 0.1% by weight except cadmium at 0.01% (as EU RoHS)
EIP - B	Metal plated materials in each part of EIPs – The restricted substances shall not be added intentionally
EIP - C	Small components that cannot be separated (standard states <4mm <sup>3</sup> ) – All 0.1% except cadmium at 0.01%

Very similar to EU RoHS – split into 3 categories to recognise some of the difficulties in analysing metal coatings (B) and very small parts such as Passive components (C)

## Marking/recycling requirements

Pollution control symbols



Symbol 1 – use if none of the restricted substances are present above permitted levels  
Compulsory label



Symbol 2 – use if any of the 6 RoHS substances are present above permitted levels  
Must also provide a table of hazardous materials indicating the location in the product and an environmentally friendly (safe use) period (in years).

## Pollution control symbols

- Must be on product if regular 5000mm<sup>2</sup> space available.
- If insufficient space, or irregular shape, or the function prevents this then print in user manual
- Clear, visible, hard to fade or remove
- In a prominent location
- Colour:
  - Symbol 1 – green preferred, symbol 2 – orange preferred
  - But any prominent (bright) colour if not green / orange
- Marking may be moulded on to the EIP

## Environmentally Friendly Use Period (EFUP)

- Is defined as the period of time that it is safe to use the equipment before hazardous substances could leak out into the environment
- Normally be determined by manufacturers
  - Print date of manufacture on product or packaging will indicate EFUP start date
- Labels are every year up to 10 years, then multiple of 5 to 95
- Draft standards published and the final version should be available soon:  
Some examples of the methods:

### Experimental method

- Based on accelerated aging tests

- Safe use period method
- If the product has a published safe use period
- Techno-life method
- Projected service life + time between production and putting into service + additional time if repairs and refurbishment are possible
- (Two) comparative methods
  - One is the comparison with similar products and technologies and the other simply adopting defined EFUPs given in Annex A of the standard
- Mobile phone = 10 years, Notebook PC = 8 years etc (from 3rd draft)
- Several substances present
- Shortest EFUP will prevail
- Excludes short lived consumables used as part of normal maintenance

## Table listing restricted substances – example

Part name	Toxic and hazardous substances and elements					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
PCB	X	0	0	0	0	0
Enclosure	X	0	X	X	0	X
Cable	X	0	0	0	0	0

- Must be X (yes) if a substance is present or O (no) if not in every box
- Informs recycler which substances are present, and where
- Must be in paper form with product, ideally located in instruction manual, or on a CD
- (can be on web providing all users are advised where to locate it)
- Table must be in Chinese, and explain meaning of “X” and “O”
- “Part” means PCB’s, sub assemblies etc
- Self declaration – no obligation to analyse

## Packaging labels

Applies to, and must specify:

- Plastics
- Paper
- Metals
- Aluminium
- Glass
- Wood



Reusable



Recyclable



Includes Recyclable Materials  
Apply label to packaging unless insufficient space (then in instruction manual)  
Should include Chinese letters plus codes for “major materials”



高密度聚乙烯

HDPE

紙板

PB

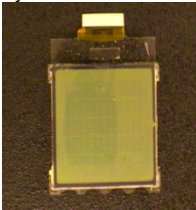




EU RoHS and China RoHS legislation have a number of similarities and differences. These are summarised in the following table:

Characteristic	EU RoHS	China RoHS
Legislation adopted	13th February 2003	26th February 2006
Entry into force	1st July 2006	1st March 2007
Scope	<p>Eight broad categories of finished products.</p> <ul style="list-style-type: none"> <li>• 10 categories under "RoHS2" from 2014</li> <li>• Proposed RoHS recast will broaden scope and could include all EEE</li> </ul>	<p>All Electronic Information Products (EIP). Extensive list published which includes many products not covered by EU RoHS <b>at that time</b> such as radar attached to aircraft or ships, medical equipment, measurement instruments, some production equipment, batteries and most types of components</p>
Main requirements	<p>Six RoHS substances must not be present in homogeneous materials, at above the maximum concentration values, unless covered by an exemption. List of substances subject to change</p>	<p>Two levels of requirements:                      All EIPs must be marked to indicate whether any of the six substances are present.                      Products that will be listed in a catalogue – substance restrictions will be specified and these may be some or all of the current six EU-RoHS substances plus possible others. 1st draft covers computer printers and telephones and 6 substances with exemptions</p>
Affected substances	Lead, cadmium, mercury, hexavalent chromium, PBB and PBDE. Others could be added in future	As for EU RoHS, with the possibility of others being added
Marking requirements	<p>Proposed recast would include CE marking                      WEEE Directive requires use of the crossed wheelie bin symbol to indicate to users that product should be correctly recycled at end of life.</p>	<p>Pollution control mark. If no RoHS substances present above permitted levels (same six as EU RoHS except Deca-BDE), use:</p>  <p>If a RoHS substance present in at least one material, use:</p>  <p>The number within the label is the Environment Friendly (safe use) Period (in years).                      Table is also required if a RoHS substance is present showing its location in the product - see pages 7 and 8.</p>



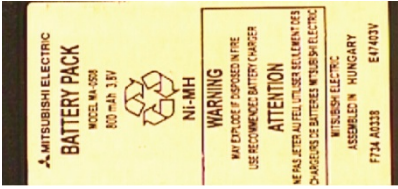
Maximum concentration values	Products in scope must contain less than: 0.1% for all except Cd which is 0.01%. All are by weight in homogeneous materials (unless covered by exemptions)	Marking with a table and the orange logo if concentrations of Pb, Hg, Cr(6), PBB or PBDE (but not deca BDE) are >0.1 % or >0.01 % of Cd by weight in homogeneous materials, except for metal coatings where RoHS substances must not be intentionally added and parts of 4 mm <sup>3</sup> or less regarded as single homogeneous materials
Exemptions	Numbered 1 to 38 at present (Subject to change)	Will be specified in catalogue of products with substance restrictions (Printers 12, telephones 10 for example)
Approach to compliance	Self declaration, third party testing not obligatory	Self declaration for marking of all EIPs Testing by authorised laboratories in China of catalogue listed products
Packaging	Not included as covered by the Packaging Directive	Must be marked to show materials content, not contain toxic substances and be recyclable
Batteries	Not included as covered by the New Batteries Directive	Included as these are EIPs
Non-electrical products	Excluded if the finished product sold to user does not depend on electricity for its main function	Included if listed as EIPs. Includes CDs and DVDs
Military equipment	Excluded from scope	Excluded from scope
"Put onto the market"	Products must be fully compliant from 1 July 2006	Applies to production on or after 1 March 2007.

**How to produce the table of hazardous substances and what format should be used**

The first step is to determine which RoHS substances are present in each of the main parts of the equipment. Some will be known but for most it is best to ask the supplier. Remember that there are no exemptions and so EU-RoHS compliant products may contain China-RoHS substances above the MCV. A hypothetical scenario could be:

Components identified with RoHS substances	LCD – lead in glass binder to bond layers 	Chip resistor – lead in glass 	MLCC – lead in ceramic 	Plastic – PBDE 	Lead in solder for battery connections 
Used in which part?	LCD module	PCB	PCB	Case	Battery pack

Parts containing at least one RoHS substance

PCB	
Case	
Battery pack	

Once this information has been determined, print the table in the manual.

Part	Lead	Cadmium	Mercury	Hexavalent chromium	PBB	PBDE
PCB	X	0	0	0	0	0
Case	0	0	0	0	0	X
LCD module	X	0	0	0	0	0
Battery pack	X	0	0	0	0	0

The table must be in Chinese as shown in the standard and include definitions of the meanings of X and O. See page 5.

**Draft China RoHS Catalogue published - October 2009**

The Chinese Government has published the first draft catalogue of Electronic Information Products that will be subject to China RoHS substance restrictions. This draft, published on the 9th October 2009, was issued for consultation which ended on the 9th November 2009. The restrictions should have come into force ten months after adoption of this legislation, unless changes are made. However these have not been adopted as of yet and are likely to be replaced by China RoHS “2”

**Scope:**

The scope is limited to telephones and all types of printers that attach to a computer. All types of phones are covered including mobiles, landline telephones and networked handsets.

**Substances:**

The restricted substances are the “RoHS 6” covered by EU RoHS – lead, cadmium, mercury, hexavalent chromium, PBB and PBDE (excluding deca-BDE according to SJ/T 11363-2006).

**Concentration limits:**

The maximum concentrations are specified by Chinese standard SJ/T 11363-2006. The limits are essentially the same as EU RoHS (0.1% in homogeneous materials except cadmium which is 0.01%) but these limits are also applicable to coatings (including multiple layers as one material) and for very small components (<4mm<sup>3</sup> being regarded as one material).

## Exemptions:

A list of exemptions is provided for each of the three product categories in the catalogue (see below).

There are ten of the EU RoHS exemptions (similar but not identical wording) that would be permitted for mobile handsets, the same ten for "telephones" and twelve permitted for computer printers (the same ten as for telephones plus one allowing "mercury in straight fluorescent lamps for special purposes" and one for lead in flat fluorescent lamps for LCDs).

Mobile handsets and telephones: EU exemptions - 5, 6 (split into 3 covering steel, aluminium and copper alloy) 7a, 7c, 13, 14, 15 and 23.

Computer printers: EU exemptions - 3, 5, 6 (split into 3 covering steel, aluminium and copper alloy) 7a, 7c, 13, 14, 15, 20 and 23.

## Testing:

The catalogue refers to SJ/T 11363-2006 which is the maximum concentration limit standard and this standard in turn refers to SJ/T 11365-2006 for test methods for RoHS analysis so these methods will need to be used to determine whether products comply.

## Entry into force:

These obligations will enter force ten months after the legislation is adopted by the Chinese Government. This is not a long period of time as manufacturers and importers will have to have their products tested and certified by approved Chinese test labs before these can be sold in China. There will be insufficient time to modify product designs to comply and so clearly it has been assumed that telephones and printers made by

Chinese manufacturers will already meet these substance restriction obligations. However, since these proposals were published, there has been no announcement of when they will enter force.

## China RoHS "2"

If you thought that progress was slow on the implementation of the so called "China RoHS Catalogue" first published in September 2009 but not yet in force, then now there is "China RoHS 2" to consider. A draft was published in July 2010 and now it is a question of which version of China RoHS will be taken forward and, if so, will the other be rejected (or amended) once and for all?

On 16 July 2010, the Ministry of Industry and Information Technology released the "draft measures for the pollution control of electrical and electronic product" the so called China RoHS2 for public consultation. Among other things, the proposed measures would amend the coverage of products by modifying the definition from "electronic information product-EIP" to "electrical and electronic product-EEE". This new definition largely corresponds to EEE in the EU RoHS Directive and within the same scope of designed for use with a voltage rating not exceeding 1500Vdc and 1000Vac. This is a much broader scope than before but, so far, there is no indicative list of products. However, they may not produce one if it is felt that everything electrical is in scope. The six restricted substances remain the same as EU RoHS but one difference is that accessories will be included as well as component parts.

Another interesting observation is that there is no mention of the China Compulsory Certification (CCC) in the July 2010 draft. This draft would also change the title of the Catalogue from "key management catalogue for the control of pollution by electronic information product" to read the "standard product catalogue for the pollution control of electrical and electronic product. So the scope of EU RoHS will expand due to the recast as will China RoHS because of these proposals though, no timescales are known at present.

## Please note:

The information contained in this document is of a general nature and is not intended to address the circumstances of

any individual or entity. Although we endeavour to provide accurate and timely information, there is no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

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