

## “CHINA-RoHS” - FREQUENTLY ASKED QUESTIONS

**Q 1.** Which products are in scope of China-RoHS?

**Answer:** The scope of China-RoHS is much broader than EU-RoHS and includes all “Electronic Information Products” (EIPs). These include radar equipment, IT, telecom, production equipment used for making EIPs, some types of test instruments, medical devices, electronic components such as resistors and ICs, batteries, PCBs, materials and certain household appliances. The Chinese government has published guidance which lists well over 1000 different products. China - RoHS requires all EIPs sold in China to be labelled.

**Q 2.** What substance restrictions apply?

**Answer:** At present there are no substance restrictions. However there will be restrictions for certain specified products that will be listed in a catalogue that is expected to be announced in late 2007. It is likely that the six EU-RoHS substances – lead, cadmium, mercury, hexavalent chromium, PBB and PBDE will be restricted although the legislation states that other, additional, substances may also be included.

The markings that are required on all EIPs sold in China differ depending on whether or not they contain any of these substances.

**Q 3.** What are the maximum concentration values for China-RoHS?

**Answer:** The Chinese Government has published a standard that defines the maximum concentration values (MCV). These are essentially the same as EU-RoHS but with subtle differences. For most parts, the limits are 0.1% of Pb, Hg, Cr(6), PBB and PBDE (except Deca-BDE) and 0.01% Cd in homogeneous materials. Metal plating is different however and substances should not be deliberately added. However, if the substance can be detected by analysis, it will be presumed to have been added intentionally. Very small parts of < 4 mm<sup>3</sup> are regarded as single homogeneous materials with the same concentration limits as individual homogeneous materials in larger parts. If one of the RoHS substances is present, above the MCV, within a homogeneous material in an EIP, then different marking is required than if the homogeneous materials contain RoHS substances at concentrations below the maximum permitted values.

**Q 4.** My products are EU-RoHS compliant, so will they comply with China-RoHS?

**Answer:** To be compliant with China-RoHS all EIPs must be marked. At present no substance restrictions apply but if RoHS substances are present this must be indicated by the markings. One difference between EU and China RoHS is that the China-RoHS marking requirements do not have exemptions; the substance is either present or not and so if a

product is EU-RoHS compliant by exemption, RoHS substances may be present at levels above the MCV.

**Q 5.** What labels do I need?

**Answer:** China-RoHS requires up to three:- (i) a pollution control symbol which also acts as a recycling mark, (ii) a table of hazardous substances if any are present and (iii) the packaging must also be marked.

If there are no RoHS substances in any of the homogeneous materials at concentrations above the MCV within the EIP, then the green, environment friendly, “e” symbol is put on the product and no “disclosure” table is required. Green is preferred but any prominent colour may be used.



If there is at least one RoHS substance in a homogeneous material at a level above the MCV then the orange symbol with a number at the centre is attached to the product. A table of hazardous substances will also need to be printed in the manual. The number is the Environmentally Friendly Use Period or EFUP, denoting the number of years before any substance is likely to leak out into the environment.



Orange is preferred but any prominent colour may be used.

**Q 6.** Do I need to label spare parts or components?

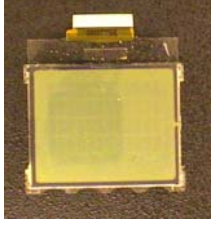

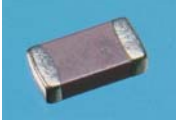

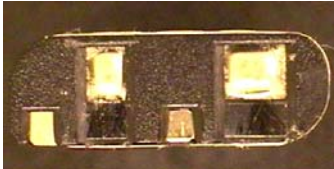
**Answer:** This is not yet clear. The Chinese standard states that the marking of components is not necessary if they are sold to OEMs for use in products that will be marked. However, information on any RoHS substances that are present will need to be provided to the OEM. Components including spare parts which are sold individually to end-users should however be marked as these are EIPs.

**Q 7.** How do I label the packaging?

**Answer:** The China-RoHS legislation states that a label with the “codes” for the main packaging materials will be compulsory for EIPs. The packaging of EIPs must be marked to indicate which materials are used. Apply a label to, or print on, the outside of the packaging the material codes from Chinese Standard GB 18455-2001 that indicate which materials are present.

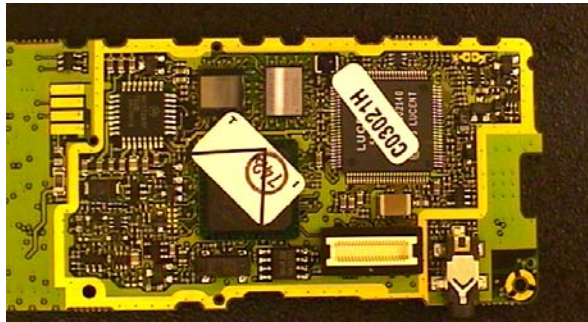
**Q 8.** How do I produce the table of hazardous substances and what format should be used?

**Answer:** 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. The following example is for a hypothetical mobile phone (note this example is not a real modern mobile phone as most use plastic LCDs with no lead ).

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**

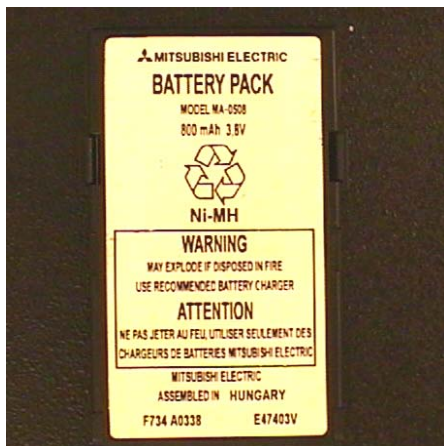
PCB



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

**Q9** How do I find out if a component contains a RoHS substance?

**Answer:** The easiest method is to ask the supplier. If you are told that the part is EU-RoHS compliant beware, as this does not necessarily mean that there are no RoHS substances present, as they may be used in exempt forms. It is increasingly important for electrical equipment manufacturers to know where hazardous substances are used, some examples are:

RoHS Substance	Where used
Lead	Solder, termination coatings, inks, PVC, ceramics, some types of glass (e.g. chip resistor glaze), leaded brass, etc.
Cadmium	Pigments, PVC, plating, switch contacts, thick film materials, NiCd batteries
Mercury	Various lamps, alkali button cells
Hexavalent chromium	Passivation coatings, bright yellow pigment (usually with lead)
PBB	Very unlikely. Possibly only in high voltage cables
PBDE	Common flame retardant in many plastics

**Q 10.** Where can I get details of the marks / logo's?

**Answer:** The Chinese government has provided details on dimensions, colours, where to use etc in the official standard SJ/T11364-2006. Green and orange are preferred for the pollution control symbols but any prominent colour may be used.

**Q11.** How do I determine the environmentally friendly use period (EFUP)?

**Answer:** A draft standard has been published which describes several options for determining the EFUP. These include; by an experimental method, from the safe-use period if known, from the “technical life” or based on the EFUP of similar products. Currently the last of these appears to be the most useful and the draft standard gives a few examples. It is likely that the final version will include a much longer list.

**Q 12.** When will the catalogue be published and what is likely to be included?

**Answer:** No date has been announced but it is likely that this will be towards the end of 2007 or early 2008. The catalogue will specify the types of product that have substance restrictions. It will define which substances are restricted, a date from which restrictions apply and any exemptions that will be permitted. There is a possibility that it may also specify other requirements.

It is not yet known which products will be in the catalogue.

**Q 13.** What will I need to do if my product is included in the catalogue?

**Answer:** Products specified in the catalogue cannot be imported into or sold in China after the specified date until an authorised Chinese laboratory has tested them for “China Compulsory Certification”. If it meets the requirements, the product can be labelled with the CCC mark and sold in China. It will be necessary to provide a test unit to the laboratory for destructive analysis although as yet, no guidance has been published which describes the procedure that the laboratory will use.

**Q14.** How will China-RoHS affect the design of products?

**Answer:** Initially, it will have no effect as it is a marking requirement only. However, the design of electrical equipment will be affected in the future by China-RoHS in several ways:

1. Products that are listed in the catalogue will need to be designed and built without the specified restricted substances. This will mean that lead-free components and solders will be used. This can affect design in several ways but the two main ones are (i) when lead-free versions of a component are not available, an alternative circuit design may be needed and (ii) some heat sensitive components cannot be used as they will be damaged by the higher lead-free soldering process, and so an alternative design will be required.

2. The China-RoHS legislation states that the Chinese Government will introduce compulsory design standards for EIPs. No drafts are available yet but this is believed to be a measure that could adopt some of the principals of the EU Eco-design approach. Clearly following good eco-design practices now will pre-empt any future measures that will be introduced.
3. The China-RoHS legislation states that the Chinese Government will introduce compulsory standards to define the recyclability of products. No drafts are available yet but it is expected that toxic and hazardous materials should be avoided and only materials that can be recycled should be used.

**Q15.** Summarise what unique features are included in China-RoHS compared to EU-RoHS?

**Answer:** Different product scope, the use of a priority products catalogue, varying enforcement dates, a unique labelling process and mandatory inspection and testing (of catalogue parts) are some of the main differences.