

# A Symphony of Synergy: How certification to the IECQ HSPM Specification works in concert with the IPC Lead Free Certification Program

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## IPC + IECQ = Due Diligence

- ▶ The IPC's Lead Free program addresses **one** of the 6 Hazardous Substances regulated by the RoHS directive. Certification to the QC 080000, the IECQ HSPM Specification, addresses the ***other 5*** Hazardous Substances called out by **RoHS**.
- ▶ The synergy of applying both systems allows a company to accomplish total due diligence.

## What is RoHS?


- ▶ **Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the**
  - ▶ **Restriction **of the use of certain**  
**Hazardous Substances****
- in electrical and electronic equipment**

## RoHS: Restriction of Hazardous Substances

- ▶ To reduce waste harmfulness, bans the following six substances, above the noted concentration levels, in electrical and electronic equipment

Substance	Max Concentration
Lead – Pb	0.1%
Mercury – Hg	0.1%
Cadmium – Cd	0.01%
Hexavalent Chromium – Cr(VI)	0.1%
Polybrominated biphenyls – PBB	0.1%
Polybrominated diphenyl ethers - PBDE	0.1%

by Weight in  
Homogenous  
Material



***Key Date: Compliance by July 1, 2006***

## **RoHS Enforcement**

### **RoHS Enforcement Guidance Document**

Version 1 – issued May 2006

<http://www.rohs.gov.uk/Docs/Links/RoHS%20Enforcement%20Guidance%20Document%20-%20v.1%20May%202006.pdf>

**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.**

## Key issues addressed within the Guidance include:

- The underlying principles that might be used to guide RoHS enforcement
- The type of documentation that 'producers' (*within the specific definition given in Article 3 of the Directive 1*) might be advised to keep
- The ways in which Member State enforcement authorities might use such documentation to check for RoHS compliance
- The ways in which sample preparation and analytical testing might be employed to avoid inconsistent enforcement decisions between Member States

## **RoHS Guidance Document Summary**

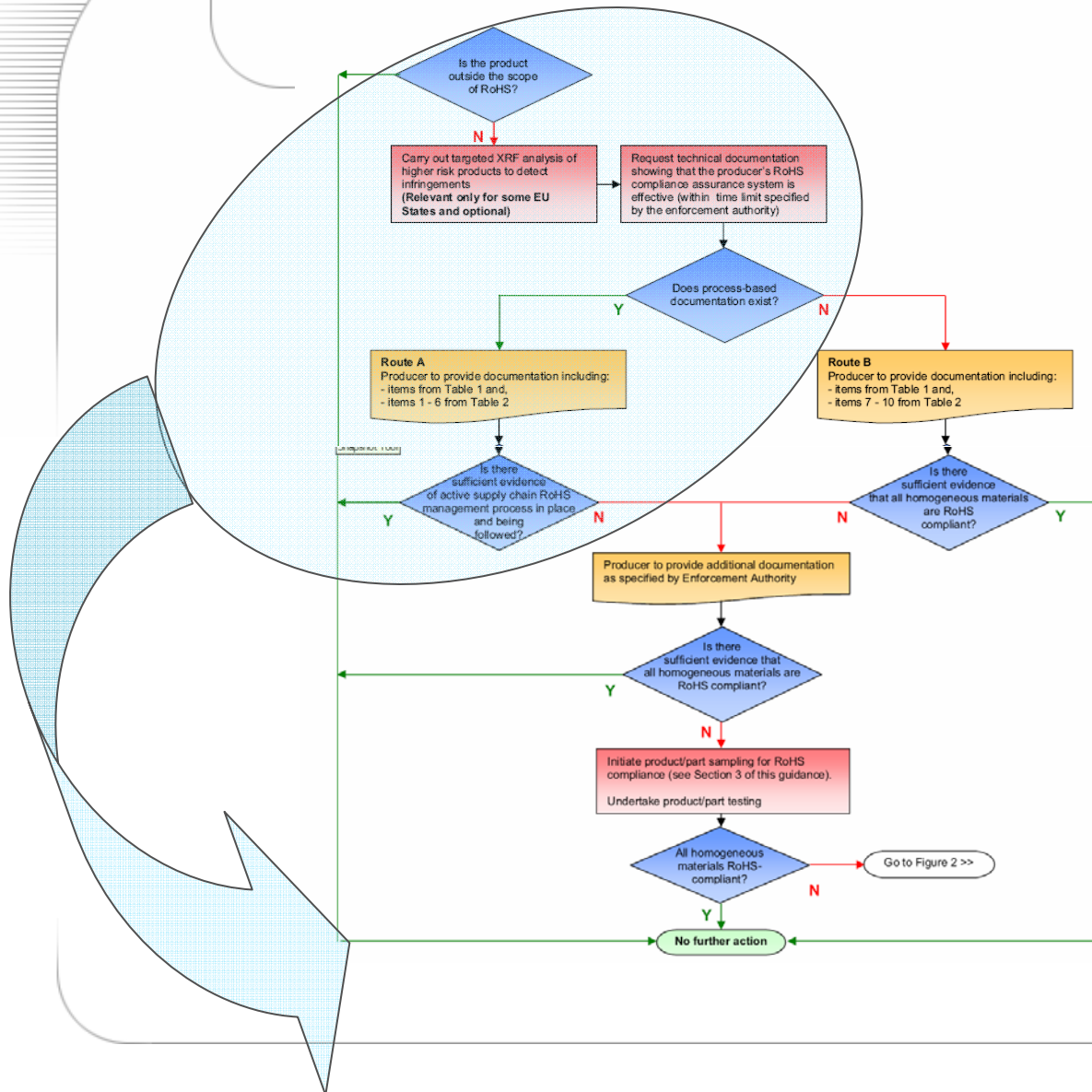
This document has two primary intentions: -

- to assist Member States with national enforcement of the RoHS Directive;

And

- to provide clarity to industry on how producers may demonstrate compliance with its requirements.

## RoHS Guidance Document Summary





## RoHS Guidance Document Summary

**Table 2 - Typical Compliance Documentation List**

**Route A**

**Process-based**

**Technical Documentation**

*(Typical information relating to the producer's internal system to ensure RoHS compliance)*

**Compliance Assurance System (CAS)**

- 1) A definition of the purpose of the system, its essential requirements and specification. This specification should cover compliance both within the company and within the supply chain
- 2) A formally defined process which implements the requirements of the system and is integrated within the organisation's quality and management systems
- 3) A technical documentation system (paper and/or electronic) to support the process and measures to assure conformity with the requirements of the system together with necessary training, tools and infrastructure.

**Route B**

**Product/Part-based**

**Technical Documentation**

*(Typical information relating to a product's/part's physical attributes that ensures RoHS compliance of a specific product)*

- 7) Producers' or suppliers' warranties /certificates declaring that the use of the restricted substances is within the permitted levels
- 8) Producers' or suppliers' completed materials declaration for each part (including revision for revised parts) and justification of RoHS categorisation and use of exemptions. These declarations would be limited to the list of RoHS substances, not full materials declarations
- 9) Analysis report for homogeneous materials in parts/components, (which could be the producers or suppliers own internal or external test results). The test results should refer to homogenous materials in parts/components.

## RoHS Guidance Document Summary

**Table 2 - Typical Compliance Documentation List**

**Route A**

**Process-based**

**Technical Documentation**

*(Typical information relating to the producer's internal system to ensure RoHS compliance)*

**Evidence of Active Control of the CAS**

- 4) Results of internal and supplier audits to validate Compliance Assurance System and/or processes. i.e. the supplier's ability to assure compliance.
- 5) Evidence that the system is being followed including results of product specific conformance assessments comprising items such as product assessments (including justification of RoHS categorisation and use of exemptions), materials declarations, procurement, inventory and production controls and substance analysis where appropriate
- 6) Overview of any internal data system used for the management of RoHS compliance data

**Route B**

**Product/Part-based**

**Technical Documentation**

*(Typical information relating to a product's/part's physical attributes that ensures RoHS compliance of a specific product)*

- 10) Those who use approach B only (SMEs) must also provide evidence that procedures are being followed to show that materials declarations have been assessed to determine if they can be trusted. Enforcement authorities will also need to see documented compliance procedures

## What is WEEE?

- ▶ **Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on**
- ▶ **Waste Electrical and Electronic Equipment**



## California Senate Bill (SB) 50

- ▶ Lists 700+ chemicals with adverse impacts, including lead, antimony trioxide, DEHP & cadmium
- ▶ Products (with exemptions) with >300 ppm lead in outer contact surface layer must be labeled
- ▶ Customer notification via letter except for consumer customers
- ▶ **Applies to all firms that sell or resell to CA retail consumers**



## China (RoHS) Article 11 (draft)

- ▶ Management and control of pollution by eliminating pollutants and requiring recycling of electronic information products
- ▶ Draft developed by Ministry of Information Industry
  - ▶ **Expands scope of EU RoHS**
  - ▶ **China on track to have most stringent standards worldwide-- Likely will become de facto standard to design to**
- ▶ Applies to **ALL producers/importers** of electronic products
- ▶ “Womb-to-tomb” scope
- ▶ Packaging must be non-toxic, biodegradable and recyclable
- ▶ Products must be labeled with names, content levels, and recyclability of harmful materials
  - ▶ **Products not properly marked will not be allowed past customs**

## US & Global HSF Legislation

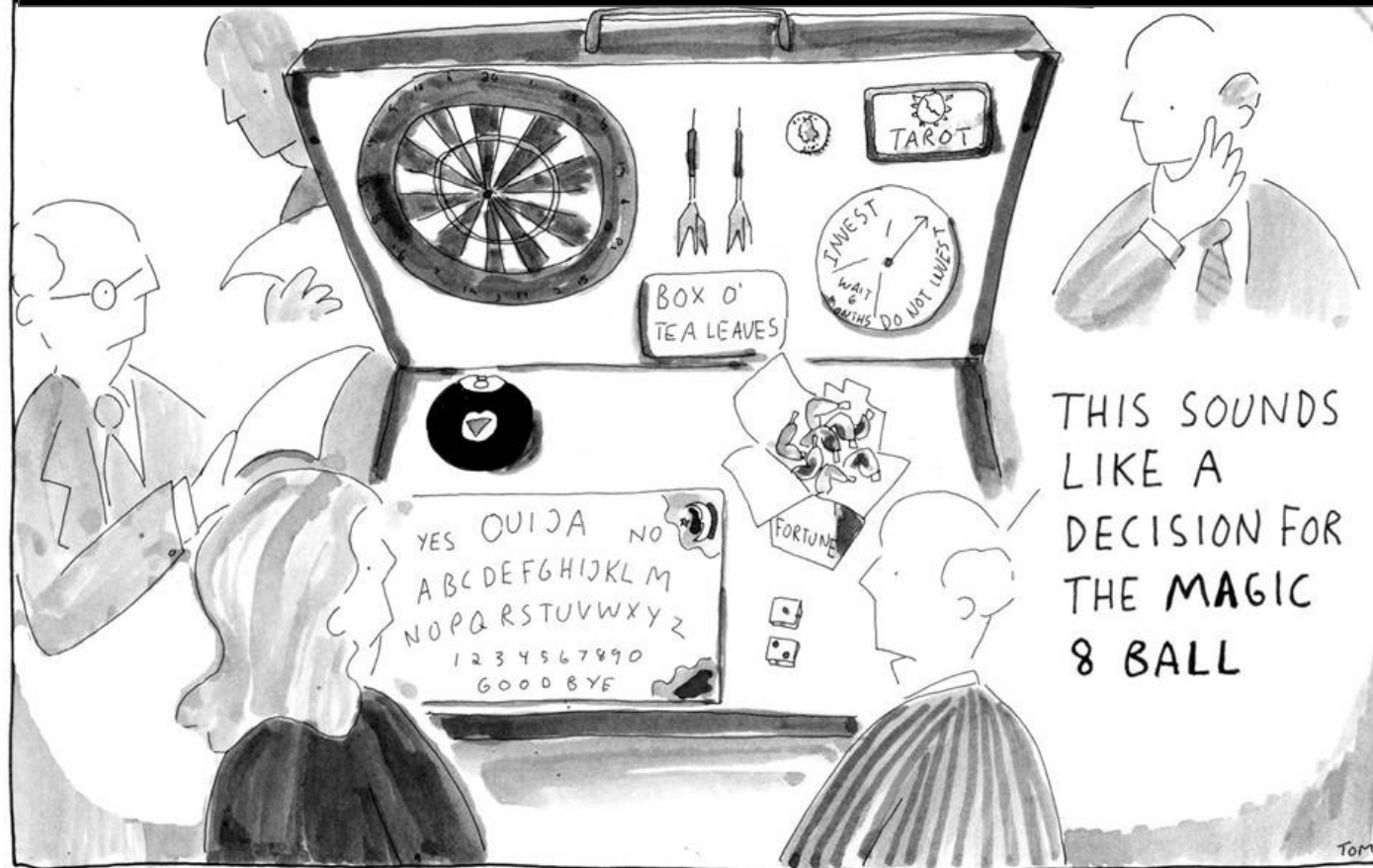
- ▶ Maine
- ▶ California
- ▶ 10 US States with Pending Legislation
  - ▶ *And growing every day!*
- ▶ China
- ▶ Japan
- ▶ Australia
- ▶ Korea

## *How do you meet them all?*

BRAND CAMP

by Tom Fishburne

**RoHS? SB50? Green Process? China Article 11?**





*Your Global Registrar*

## **Hazardous Substance Process Management – QC 080000**

- ▶ **International Electrotechnical Commission**  
**QC 080000 IECQ HSPM 2005**
- ▶ **Electrical & Electronic Components and Products**  
**Hazardous Substance Process Management**  
**System Requirements**



## What is QC 080000?

- ▶ An internationally agreed-upon IECQ technical specification for certification by 3rd-party assessors that a company's processes to manage, minimize and/or eliminate hazardous substances meet the highest standards
  - ▶ Incorporates as applicable RoHS, WEEE, SB-50, **green process**, etc and the principles of a QMS
  - ▶ Developed originally from the US standard EIA/ECCB 954
  - ▶ On target to become an industry standard within the next 1-1.5 years

## What is QC 080000 IECQ HSPM?

- ▶ Based on belief that achievement of HSF products & production processes cannot be realized without effective **integration of management disciplines**
  - ▶ Solution must be process-based
  - ▶ Can't "inspect in" quality; Can't "test out" HSF

## How was QC 080000 Created?

- ▶ EU Directive - RoHS
- ▶ EU Directive - WEEE
- ▶ California SB50 – AB 2022( pending)
- ▶ China Article 11 (~ RoHS)
- ▶ China Article 12 (~WEEE)
- ▶ Other regulations are imminent in Japan, Korea, Australia, additional US states, etc...

## How does QC 080000 Work?

- ▶ Comprehensive in scope
  - ▶ Management of **all HS processes**
  - ▶ Regardless of HSF requirements a company is trying to meet
- ▶ Designed to satisfy company HSF requirements and country HSF regulatory requirements
  - ▶ Will reduce or replace government compliance testing and numerous company-specific audits

## QC 080000 and ISO 9001

- ▶ IECQ HPSM is an “**add on**” to the ISO 9001:2000 Quality Management System (QMS)
- ▶ ISO 9001 provides a blueprint for optimization of business and quality management systems
  - ▶ ***IECQ HSPM was written to fit into that blueprint***
- ▶ IECQ HSPM strengthens adherence to the principles and practices prescribed by the International Organization of Standardization (ISO) and directs their application to the management of hazardous substances

## **Sections of QC 080000 IECQ HSPM**

- 0 Introduction
- 1 Scope
- 2 Normative References
- 3 Terms and Definitions
- 4 Quality Management System
- 5 Management Responsibility
- 6 Resource Management
- 7 Product Realization
- 8 Measurement, Analysis and Improvement

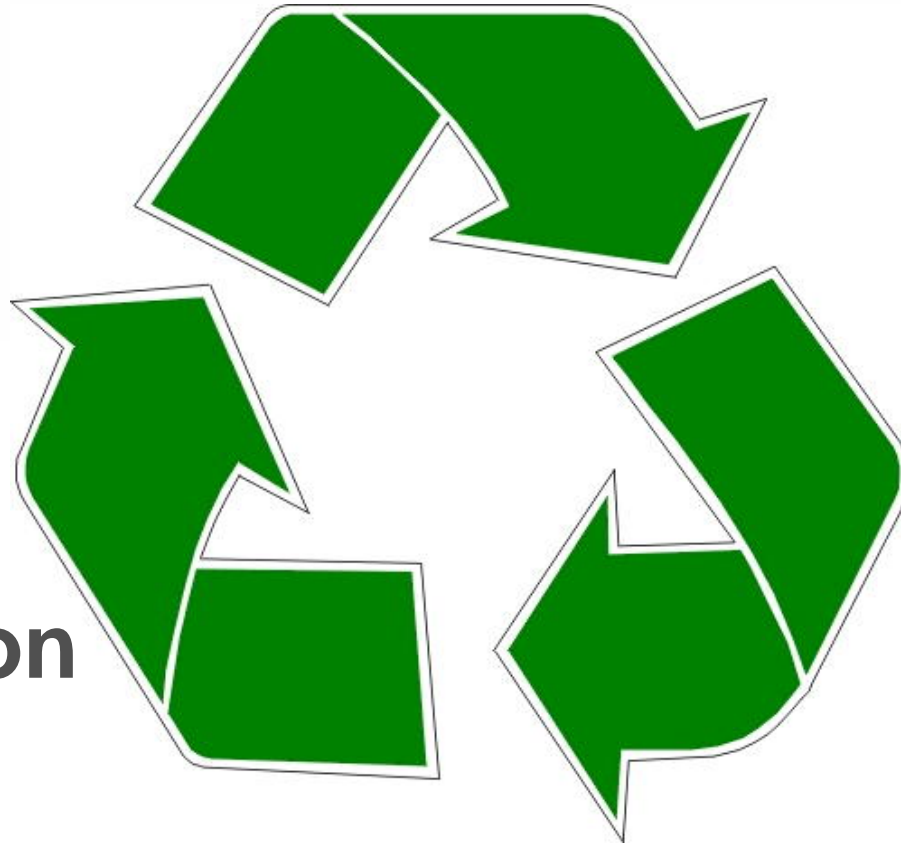
To facilitate integration of HS process management with a company's QMS, these sections and their subsections use the same numbering as ISO 9001:2000.

## The Steps to Certification

- ▶ ISO QMS Registered or ISO Compliant
  - ▶ ISO 9001, AS9100, TS16949, TL9000, etc.
- ▶ Obtain training
- ▶ Build your system
- ▶ Apply to Certification Body for registration
- ▶ Documentation Review
- ▶ On-Site Registration Audit
  - ▶ (1.5 – 7 days based on size)
- ▶ On-going Annual Surveillance



## IPC Lead Free



**Certification  
Body**

**IECQ  
QC 080000**