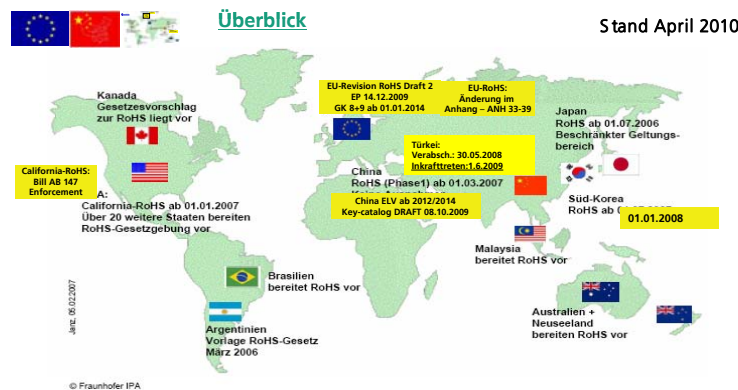
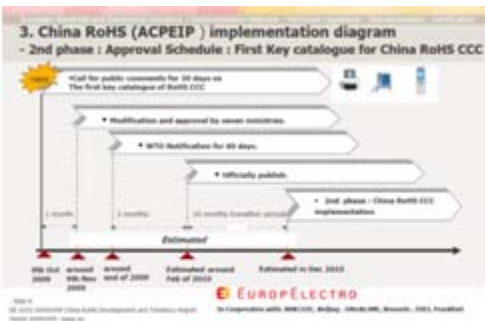
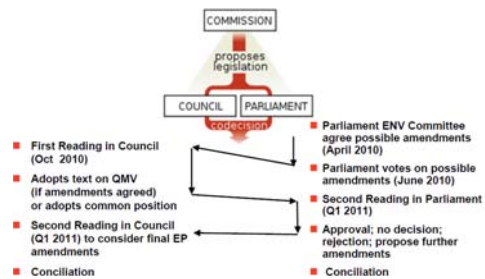


Aktuelle Übersicht zu weltweiten Compliance-Anforderungen an die Schadstoffkonformität von Elektro- und Elektronikprodukten

Dipl.-Ing. (FH) Markus Hornberger, Fraunhofer IPA



August 2009

GB XXXXX-XXXX

Requirements for Prohibited Substances on Automobiles

(Draft Standard for exam)

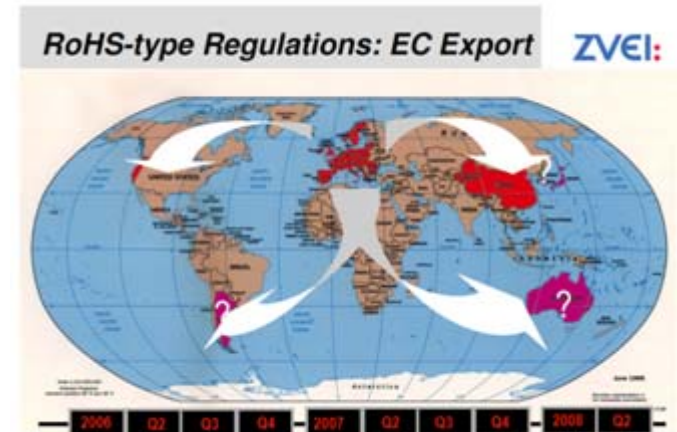
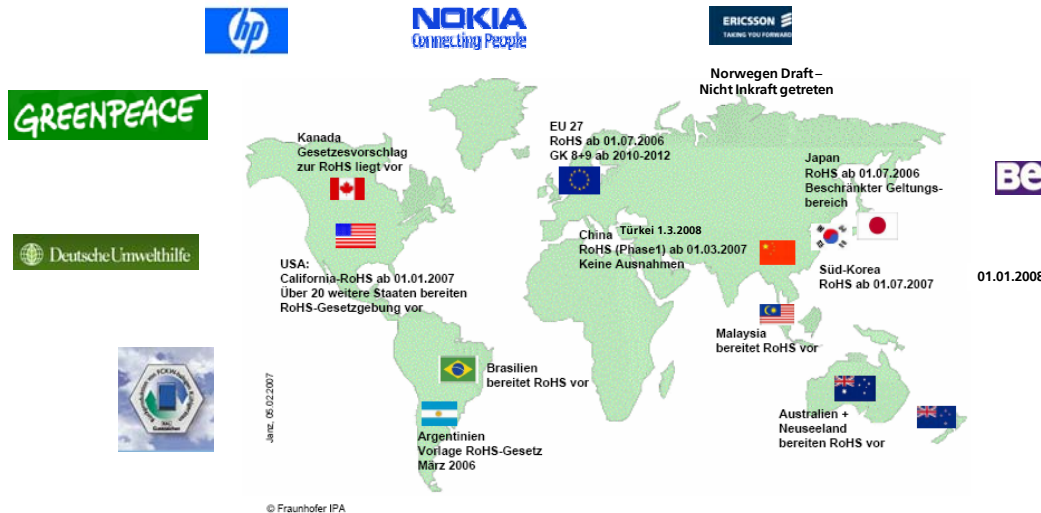
Issued on 200X.XX.XX Effective from 200X.XX.XX

Promulgated by
State General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China
And
Standardization Administration of the People's Republic of China

ACEA Translation
For Reference Purposes Only

Überblick

Global Compliance Anforderungen



Unterschiedliche Global Compliance Anforderungen

Parameter	EU	China	California	Japan	Korea	Comment
Scope	10 product categories, exclusions	11 product categories	1 product category	7 product categories	10 products	Non harmonized
The Restricted Substances	Lead Cadmium Mercury Hexavalent-Chromium PBB PBDE	Lead Cadmium Mercury Hexavalent-Chromium PBB PBDE	Lead Cadmium Mercury Hexavalent-Chromium (no PBB) (no PBDE)			Harmonized
Restriction or Disclosure	Restriction	Disclosure only	Restriction			Non harmonized
Maximum Concentration Values	0.1% for all except Cadmium at 0.01%	0.1% for all except Cadmium at 0.01%	0.1% for all except Cadmium at 0.01%		0.1% for all except Cadmium at 0.01%	Harmonized
Level at which restriction is applied	Homogenous material	3 kind of homogenous materials	Homogenous material	Homogenous material	Homogenous material	Harmonized but with some differences
Exemptions	Allowed	No exemptions	Follows EU	Follows EU	Expected to Follow EU	Non harmonized

Aufgaben eines Schadstoffmanagementsystems

Einzelne Schritte zur Einhaltung der Produktkonformität:

- Screening der globalen Gesetzeslage, nationalen und international betroffenen Verbänden, Normungsgremien und Unternehmen
- Einschätzung bezüglich Betroffenheit (wirtschaftl./produktionstechn. Auswirkungen)
- Bewertung und Reporting der aktuellen Ist-Situation im Unternehmen sowie Ableitung von Maßnahmen
- Umsetzung von Maßnahmen zur Sicherstellung der Konformität
- Entwicklung von unternehmensbezogenen Managementleitlinien zur kontinuierlichen Einbindung der globalen Schadstoffkonformität
- Aufbau eines Schadstoffmanagementsystems im Unternehmen

Unterschiedliche Anforderungen innerhalb der Zulieferkette

JOINT INDUSTRY GUIDE (JIG)

Material Composition Declaration for Electrotechnical Products

JIG-101 Ed 2.0

(Revision of JIG-101A, September 2007)

April 28, 2009



Global Automotive Declarable Substance List (GADSL)

1. GADSL Objectives

Major objectives of automotive product development include continuous improvements in quality, safety, and the reduction of environmental impact throughout vehicle life cycle. As much as possible, these objectives should be achieved in an efficient, cost effective way to optimize consumer value. A large number of construction, operational and processing materials are used in the automotive manufacturing chain, and their selection and proper use can have significant impact on these objectives.

To meet these objectives, an ongoing dialogue and information flow within the global automotive supply chain, including automobile manufacturers, tier suppliers and material suppliers has been established, called the Global Automotive Stakeholder Group (GASG). Early information and dialogue up and down the supply chain will help facilitate compliance with current and future regulations, as well as take into account customer requirements to ensure sustainable products. Optimized handling of relevant information flow can help automobile manufacturers meet existing and projected reporting requirements in a consistent, understandable and efficient way.

The GASG organization consists of three regions, Americas, Europe/Africa/Middle East, and Asia/Pacific. Regional membership and participation is open to all stakeholders in the automotive supply chain. Each of the three regions nominates six members to sit on the governing body of the GASG, called the Steering Committee (SC). The SC meets annually or more at its prerogative to decide on the GADSL and to provide a transparent and open process for decision making.

The product of the GASG dialogue is the Global Automotive Declarable Substance List (GADSL). The GADSL covers declaration of certain information about substances relevant to parts and materials supplied by the supply chain to automobile manufacturers. The information is applicable to the use of these parts or materials in the production of a vehicle up to its usage and relevant to the vehicle's re-use or waste disposal.

Revision Date	Revision Comment
2010-10-01	2010 update of the substance list according to agreed decisions. 2010 changes are highlighted in gray.

2010 GADSL Version 1.0

Page 1 of 42

4 497 016 443
Bosch-Norm

2009-10-20
N 2580-1

Verbot und Deklaration von Inhaltsstoffen

Mappe: N 2580 Verbot und Deklaration von Inhaltsstoffen
Fachliche Verantwortung: kou2bue C/PS (400)



Bearbeiten: lpd2sl C/CTN2 (497)
Dokumentsprache: de
Originalsprache: de
Änderungen: komplett überarbeitet

Ersetzt Ausgabe: 2008-05-16

Änderungsinformation: AEN 4497R22429

Übersetzung			Verantwortlich		
Freigabedatum	Ausgangssprache	Zielsprache	Kurzzeichen	Abteilung	BWN

Alle Papierversionen und Kopien außerhalb Bosch-Norm-Master unterliegen nicht dem Änderungsdienst und haben keinen Anspruch auf Aktualität.

Seite 1 von 4

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Unterschiedliche Anforderungen innerhalb der Zuliefererkette

B/S/H/

VESTEL

VESTEL WHITE APPLIANCES

LIST OF RESTRICTED MATERIALS

Articles (i.e. materials, components, subassemblies, products) delivered to and used Vestel White Appliances must be free of the "Restricted Substances" as mentioned in this list.

CHEMICALS	THRESHOLD VALUE	REGULATIONS	EXAMPLES OF USE
Asbestos	Intentionally added	EU 76/769/EEC ChemVerbotsV (Germany)	Brake lining and pad, insulator, filter, friction material, pigment, paint, talc, adiabatic material
Certain Azocolourants and Azodyes (Aromatic Amines formed from Azocolourants and Azodyes)	30 ppm (0.003%)	EU 76/769/EEC	Pigment, dye, colorant
Cadmium/Cadmium compounds ¹⁰	100 ppm (0.01%) by weight in homogeneous material	EU 76/769/EEC EU 2002/95/EC (RoHS) EU 84/62/EEC	Pigment, corrosion-resistant surface treatment, electroelectronics material, optical material, stabilizer, plating material, pigment for resin, fluorescent agent for optical glass, electrode, soldering material
Hexavalent Chromium/Hexavalent Chromium Compounds ¹⁰	1000 ppm (0.1%) by weight in homogeneous material	EU 2002/95/EC (RoHS) EU 84/62/EEC	Pigment, paint, ink, catalyst, plating, corrosion-resistant surface treatment, dye, paint drying agent, surface treatment, chrome treatment, enhancement of paint adhesion enhancement, anti-corrosion
Lead/Lead Compounds ¹⁰	1000 ppm (0.1%) by weight in homogeneous material	EU 76/769/EEC EU 2002/95/EC (RoHS) EU 84/62/EEC	Rubber hardener, pigment, paint, lubricant, plastic stabilizer, battery material, fire cutting alloy, optical material, X-ray shield, electro soldering material
Mercury/Mercury Compounds ¹⁰	1000 ppm (0.1%) by weight in homogeneous material	EU 76/769/EEC EU 2002/95/EC (RoHS) EU 84/62/EEC	Fluorescent lamps, electric contact material, coloring pigment, corrosion inhibitor, switch, high-efficiency light emitter
Ozone Depleting Substances	Intentionally added	Montreal Protocol, Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, US Clean Air Act, Japan, Ozone Layer Protection Act	Refrigerant, blowing agent, fire extinguishing agent
Polybrominated Biphenyls (PBBs)	1000 ppm (0.1%) by weight in homogeneous material	EU 76/769/EEC EU 2002/95/EC (RoHS)	Flame retardant
Polybrominated Diphenylethers (PBDEs)	1000 ppm (0.1%) by weight in homogeneous material	EU 76/769/EEC EU 2002/95/EC (RoHS)	Flame retardant
Polychlorinated Biphenyls (PCBs) and Terphenyls (PCTs)	Intentionally added	EU 76/769/EEC Japanese law: The Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances, Class 1 U.S. Nuclear Regulatory Commission Title 10 CFR Part 20 (Annex C), Laws for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986 (Japanese law)	Insulating oil, lubricating oil, electric insulating medium, solvent, electrolyte
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	Intentionally added	Japanese law: The Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances, Class 1	Lubricating oil, paint, plastic stabilizer (electrical characteristics, flame resistance, water resistance), flame retardant
Radioactive Substances	Intentionally added	U.S. Nuclear Regulatory Commission Title 10 CFR Part 20 (Annex C), Laws for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986 (Japanese law)	Optical characteristics (thorium)
Chlorinated Paraffins	Intentionally added	EU 76/769/EEC	Vinyl chloride plasticizer, flame retardant
Tin Organic Compounds	Intentionally added	Japanese law: The Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances, Class 2	Stabilizer, antioxidant, antioxidant, antimicrobial and antifungal agents, antirouging agent

Verbotsliste gefährlicher Stoffe

Revisionsstand: Januar 2009

Letzte Änderung: 01/12/2008

Auszug aus den in Deutschland, der EU, der Schweiz und in einigen anderen Ländern geltenden gesetzlichen Verboten oder Beschränkungen des Inverkehrbringens gefährlicher Stoffe.

Stoff	CAS-Nr.	Betroffene Anwendung	Grenzwert (Gew.-%) ¹¹	Ausn.	Gesetzliche Regelungen ¹²
Aliphatische KWV	s. u. ¹¹	Generelles Verbot	0,1 (ges.)	ja	DE ChemVerbotsV EU 76/769/EEG CH ChemRRV Anh. 1.3
71-55-6 86-29-5		Generelles Verbot	n.a.	ja	CH ChemRRV Anh. 1.2
1,1,1,1-tetrafluorethan	1332-21-4 s. u. ¹¹	Generelles Verbot	0,1 (ges.)	ja	DE ChemVerbotsV EU 76/769/EEG CH ChemRRV Anh. 1.6
Wärme- und Schalldämmung im Hochbau einschließlich technischer Isolierungen und bei Lüftungsanlagen		Generelles Verbot	0,1 (ges.)	ja	DE ChemVerbotsV
Fest eingebaute Batterien	7439-92-1	Elektrische und elektronische Geräte	0,1	ja	DE BattV EU 91/157/EEG CH ChemRRV Anh. 2.15
Anstriche und Lackierungen		Elektrische und elektronische Geräte	0,01	ja	CH ChemRRV Anh. 2.6
Eingefärbte Kunststoffe		Stabilisierte Vinylchlorid-polymerisate u. -copolymerisate (z.B. PVC)	0,01	ja	DE ChemVerbotsV EU 76/769/EEG CH ChemRRV Anh. 2.9, 2.16(2)
Metallische Oberflächen		Anstriche und Lackierungen	0,01	ja	DK Verordn. Nr. 1199, Grenzwerte 0,0075 % CH ChemRRV Anh. 2.6
Fest eingebaute Batterien		Kohle-Zink-Batterien	0,025	ja	DE BattV EU 91/157/EEG CH ChemRRV Anh. 2.15
Fest eingebaute Batterien		Zinkschichten	0,025	ja	CH ChemRRV Anh. 2.16(3)
Elektrische und elektronische Geräte		Elektrische und elektronische Geräte	0,01	ja	DE BattV EU 91/157/EEG CH ChemRRV Anh. 2.15
Elektrische und elektronische Geräte		Elektrische und elektronische Geräte	0,1	ja	DE BattV EU 91/157/EEG CH ChemRRV Anh. 2.15
Generelles Verbot		Generelles Verbot	0,1	ja	DE ChemVerbotsV EU 76/769/EEG
Generelles Verbot		Generelles Verbot	0,1	ja	DE ChemVerbotsV EU 76/769/EEG

SIEMENS HAUSGERÄTE GMBH

Verbotsliste gefährlicher Stoffe

Revision: Januar 2009

Seite 1 von 4

REACH Directive (2006/121/EC): the part shall not contain more than the 0.1% of the following Substances of Very High Concern (SVHC) by weight of part / weight of SVHC:

Part / Part Family or Assembly Number:

Note: Only one form is required for all parts within a part family with identical substance composition.

If known, please identify the Hypertherm part numbers affected by this declaration:

Note: Attach a cross reference list for manufacturers to Hypertherm part numbers.

☐ The part(s) described have always been compliant – no change to the part or manufacturer part number.

☐ If the part(s) described were changed to be compliant please indicate the date and method used to identify compliant part(s).

REACH SVHC's (Information req)	CAS#	EC#	SVHC limit by weight of SVHC / weight of article	Yes or No SVHC used?	If yes, indicate the nature and amount of SVHC use	Yes or No, SVHC exceeds limit	If SVHC exceeds limit indicate notification/ authorization number
Triethylarsenate	15006-86-8	427-700-2	0.1%				
Alkanes C10-13 chloro (SCCPs)	85535-84-8	287-476-5	0.1%				
Hexabromocyclododecane (HBCDD)	25637-90-4	247-148-4	0.1%				
Lead hydrogen arsenate	7784-40-9	232-064-2	0.1%				
Cobalt dichloride	7646-79-9	231-386-4	0.1%				
Diamene trioxide	1327-63-3	215-451-4	0.1%				
Diamene pentoxide	1309-28-2	215-118-9	0.1%				
Cyclododecane	294-62-2	206-33-9	0.1%				
Bis 2-ethylhexylphthalate (DEHP)	117-61-7	204-211-0	0.1%				
4,4'-Diaminodiphenylmethane	101-77-8	202-674-4	0.1%				
Benzobiphenylate (BSP)	85-68-7	201-622-7	0.1%				
Dibutylphthalate (DBP)	84-74-2	201-557-4	0.1%				
5-tert-butyl-2,4,6-trinitro-m-xylene	81-15-2	201-329-4	0.1%				
Bis(t-butyl)oxides	86-35-9	205-268-0	0.1%				
Sodium dichromate dihydrate	7789-12-0		0.1%				
Atrazine	120-13-7	204-371-1	0.1%				

The following signature declares the information provided herein is accurate and that the parts or assemblies designated above meet Hypertherm 04826 specification and the REACH Directive. One signature required per supplier / manufacturer or union of parts (article).

head and address here.

Information Request Form

06 (REACH), in force since 1st of June 2007 will have an important impact on the offer of gear market. The registration portion of the European REACH directive requires action: and in for products and chemicals that are eventually placed on the European market. Article 17 of the REACH Directive requires suppliers to obtain assurances from our supply chain Hypertherm products will be registered. You will understand that we are concerned about and anticipate the needs of material, product or process change.

y Number:

are within a part family with identical substance composition.

Hypertherm part numbers affected by this declaration:

manufacturer to Hypertherm part numbers.

we confirm that we understand our obligations under REACH? IF YES please provide contact information responsible to deal with REACH. IF NO please indicate why.

chemicals used in or on the part or assembly as supplied to Hypertherm? IF YES complete the following questions; sign and return the document.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

do we use a complete list of the chemicals used in or on the part your company provides to the list. IF NO please indicate why.

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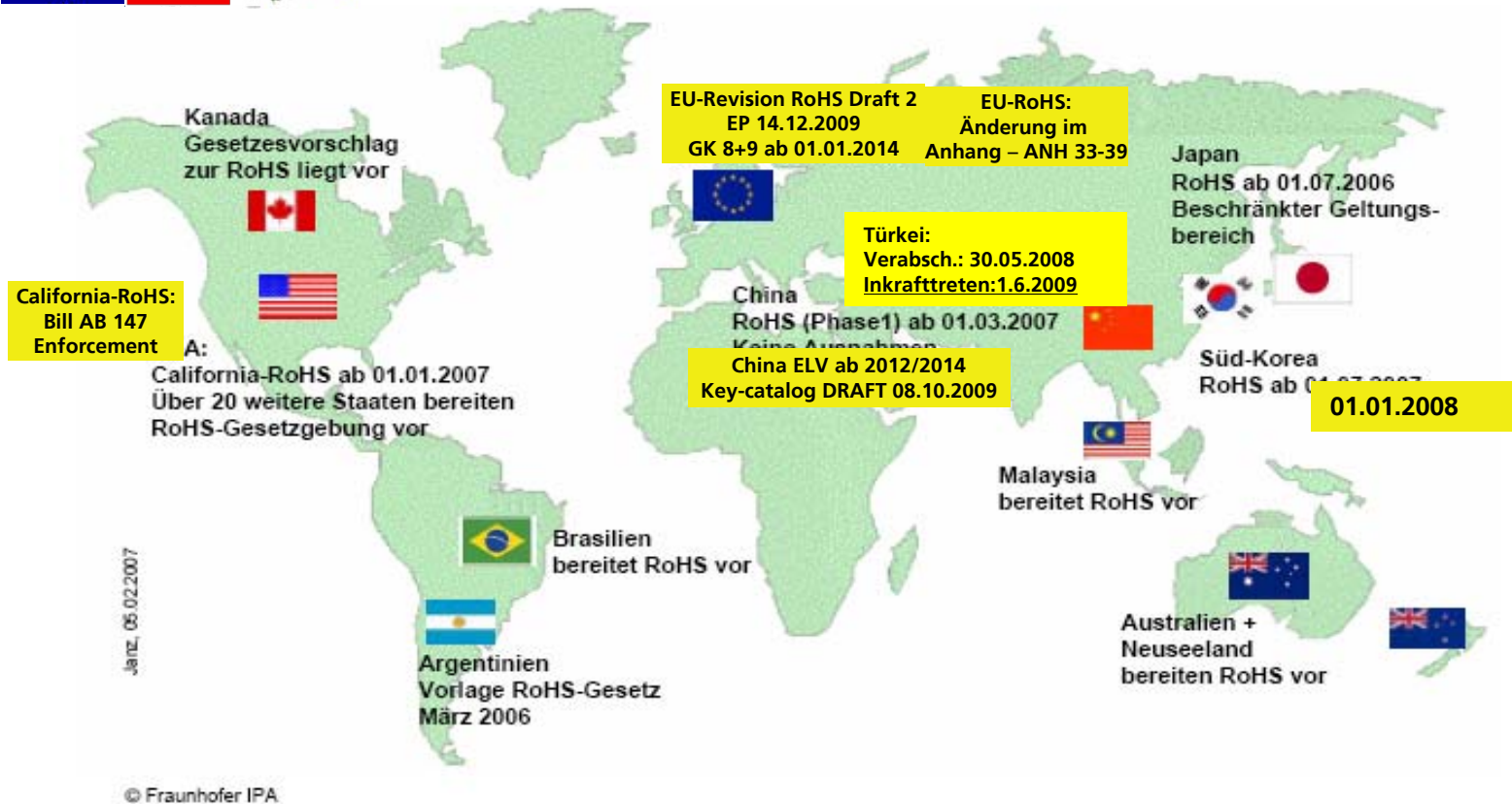
Aktueller Sachstand

Sicherstellung der Legal Schadstoff Compliance



Überblick

Stand April 2010



EU-RoHS Recast

Zusammenfassung, Stand März 2010

- Sowohl das RoHS-Recast, als auch das WEEE-Recast enthalten einige strittige Punkte, die durch eine Überarbeitung beseitigt werden sollen
- Bei der RoHS sind folgende Punkte besonders strittig:
 - Anwendungsbereich - Vorschlag:
 - offen ohne Kategorien
 - nur noch großindustrielle Anlagen ausnehmen
 - Ausnahmen:
 - Neue Ausnahmen für ganze Teile
 - Photovoltaikanlagen und den Transportbereich
 - Zeiträume für deren Bestehen
 - Stoffverbote:
 - die meisten Mitgliedsstaaten wollen neue Stoffverbote
 - Prozedur wie bei REACH
 - Anwendungsbereich: Vorschläge über
 - offenen Anwendungsbereich - bis zu 5 oder mehr Kategorien
 - großindustrielle Anlagen könnten ausgenommen werden



EU-ELV

Änderung Anhang

■ Änderung Anhang der ELV

■ 25.02.2010

L 48/12

DE

Amtsblatt der Europäischen Union

25.2.2010

BESCHLÜSSE

BESCHLUSS DER KOMMISSION

vom 23. Februar 2010

zur Änderung von Anhang II der Richtlinie 2000/53/EG des Europäischen Parlaments und des Rates über Altfahrzeuge

(Bekannt gegeben unter Aktenzeichen K(2010) 972)

(Text von Bedeutung für den EWR)

(2010/115/EU)

DIE EUROPÄISCHE KOMMISSION —

gestützt auf den Vertrag über die Arbeitsweise der Europäischen Union,

gestützt auf die Richtlinie 2000/53/EG des Europäischen Parlaments und des Rates vom 18. September 2000 über Altfahrzeuge (1), insbesondere auf Artikel 4 Absatz 2 Buchstabe b,

in Erwägung nachstehender Gründe:

bleihaltige Werkstoffe und Bauteile befristet von dem Verbot gemäß Artikel 4 Absatz 2 Buchstabe a der Richtlinie 2000/53/EG ausgenommen bleiben, da die Verwendung von Blei in diesen Werkstoffen und Bauteilen aus technischen oder wissenschaftlichen Gründen noch immer unvermeidbar ist. Es ist daher angebracht, die Ablauffrist dieser Ausnahmen zu verlängern, bis auf die Verwendung des verbotenen Stoffs verzichtet werden kann.

(1) Die Einföhrung bleihaltiger Werkstoffe und Bauteile

„ANHANG II

Von Artikel 4 Absatz 2 Buchstabe a ausgenommene Werkstoffe und Bauteile

Werkstoffe und Bauteile	Anwendungsbereich und Ablauffrist der Ausnahme	Zu kennzeichnen oder kennlich zu machen gemäß Artikel 4 Absatz 2 Buchstabe b Ziffer iv
<i>Blei als Bestandteil einer Legierung</i>		
1. Stahl für Bearbeitungszwecke und feuerverzinkter Stahl mit einem Bleianteil von bis zu 0,35 Gewichtsprozent		
2 a. Aluminium für Bearbeitungszwecke mit einem Bleianteil von bis zu 2 Gewichtsprozent	Als Ersatzteile für vor dem 1. Juli 2005 in den Verkehr gebrachte Fahrzeuge	
2 b. Aluminium mit einem Bleianteil von bis zu 1,5 Gewichtsprozent	Als Ersatzteile für vor dem 1. Juli 2008 in den Verkehr gebrachte Fahrzeuge	
2 c. Aluminium mit einem Bleianteil von bis zu 0,4 Gewichtsprozent		
3. Kupferlegierung mit einem Bleianteil von bis zu 4 Gewichtsprozent		
4 a. Lagerschalen und Buchsen	Als Ersatzteile für vor dem 1. Juli 2008 in den Verkehr gebrachte Fahrzeuge	
4 b. Lagerschalen und Buchsen in Motoren, Getrieben und Kompressoren für Klimaanlage	1. Juli 2011 und danach als Ersatzteile für vor dem 1. Juli 2011 in den Verkehr gebrachte Fahrzeuge	
<i>Blei und Bleiverbindungen in Bauteilen</i>		
5. Batterien		X
6. Schwingungsdämpfer		X
7 a. Vulkanisierungsmittel und Stabilisatoren für Elastomere in Brems- und Kraftstoffschläuchen, Belüftungsschläuchen, in elastomer-/metallhaltigen Teilen der Fahrzeuggestelle und Motorblöcken	Als Ersatzteile für vor dem 1. Juli 2005 in den Verkehr gebrachte Fahrzeuge	
7 b. Vulkanisierungsmittel und Stabilisatoren für Elastomere in Brems- und Kraftstoffschläuchen, Belüftungsschläuchen, in elastomer-/metallhaltigen Teilen der Fahrzeuggestelle und Motorblöcken	Als Ersatzteile für vor dem 1. Juli 2006 in den Verkehr gebrachte Fahrzeuge	

China-ELV

Draft August 2009

■ Aktueller Draft (Stand August/2009)

4.1 Scope of prohibited substances

The prohibited substances in this standard refer to the following 6 substances specially:

- 1) Lead or its chemical compound
- 2) Mercury or its chemical compound
- 3) Cadmium or its chemical compound
- 4) Hexavalent chromium
- 5) Polybrominated biphenyls (PBBs)
- 6) Polybrominated diphenyl ethers (PBDEs)

4.2 Limits of prohibited substances

With the exception of automotive components/parts and material that are stipulated in Annex A and exempted within certain period of time, lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in each homogeneous material in automotive products and their components/parts products shall not exceed 0.1% of mass percent and cadmium shall not exceed 0.01% of mass percent.

4.3 Effective Date

Regarding newly certified vehicles, starting from January 1 2012, it is required to meet stipulations in 4.2.

Regarding in-production vehicles, starting from January 1 2014, it is required to meet stipulations in 4.2.



August/2009

ICS.



National Standard of the People's Republic of China

GB XXXXX-XXXX

Requirements for Prohibited Substances on Automobiles

(Draft Standard for exam)

Issued on 200XX-XX-XX

Effective from 200X-XX-XX

Promulgated by
State General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China
And
Standardization Administration of the People's Republic of China

ACEA Translation
For Reference Purposes Only

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China-ELV

Draft August 2009

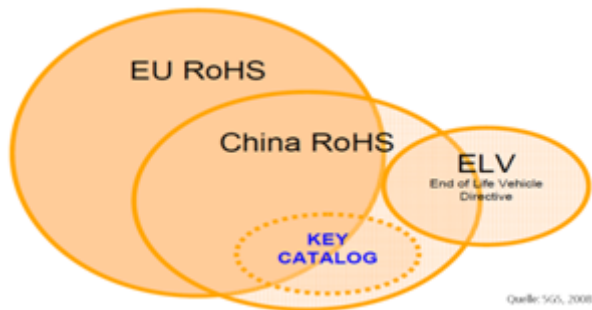
- All vehicles of category M and N (passenger cars and light trucks) must meet the following requirements:
- Material restrictions
 - Exemptions are listed in “Annex II”
 - For all vehicles with type approval from 2010
 - For all other vehicles in the market (incl. spare parts) from 2014
 - “Repair as produced” principle for spare part is permitted until 2014

<i>restricted substances</i>	<i>tolerated maximum concentration values</i>
Lead (Pb)	0,1% by weight
Hexavalent Chromium (Cr 6+)	0,1% by weight
Mercury (Hg)	0,1% by weight
Cadmium (Cd)	0,01% by weight
Polybrominated Biphenyl (PBB)	0,1% by weight
Polybrominated Diphenyl Ether (PBDE)	0,1% by weight

Material and component	Range and exemption term of exception clause		EU ELV Expiry date
	Label	Expiry date	
Lead as an alloying element			
1. Steel for machining purposes & galvanized steel (lead ≤0.35wt%)		2012/01/01	No expiry date
2. Mechanical processing used aluminum product (lead ≤0.4wt%)		2012/01/01	No expiry date
23 (a). PBDE except DecaBDE		2012/01/01	

China RoHS (Key Catalogue) / ELV

■ Current Status + Outlook



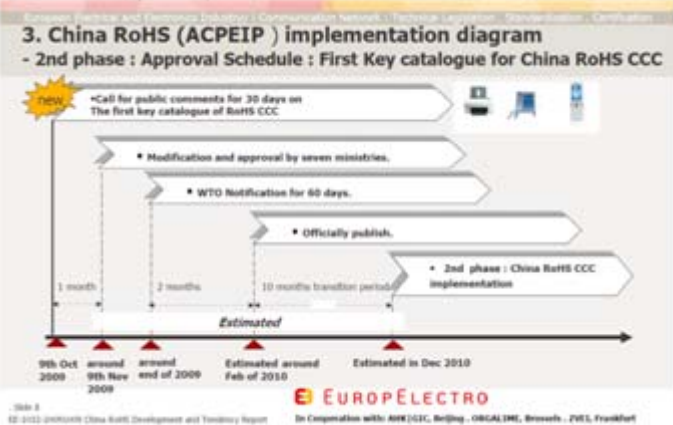
	China	EU
Transferring	No need	Must transfer
Scope	EIP and Packaging materials in China market	EEE in category
Products	Management of Catalogue	Defined in WEEE & RoHS
Timetable	2006.3.2, 2007.3.1 Two steps	2003.2.13, 2006.7.1 One step
Related standards	Subject to industry standards and catalogue, which are under development	Clear catalogue, technical requirement (MCV)
Measure	Covered into CCC management	Due diligence

Quelle: SGS, 2008

Key Administrative Catalog for the Pollution Control of Electronic Information Products (Batch 1)

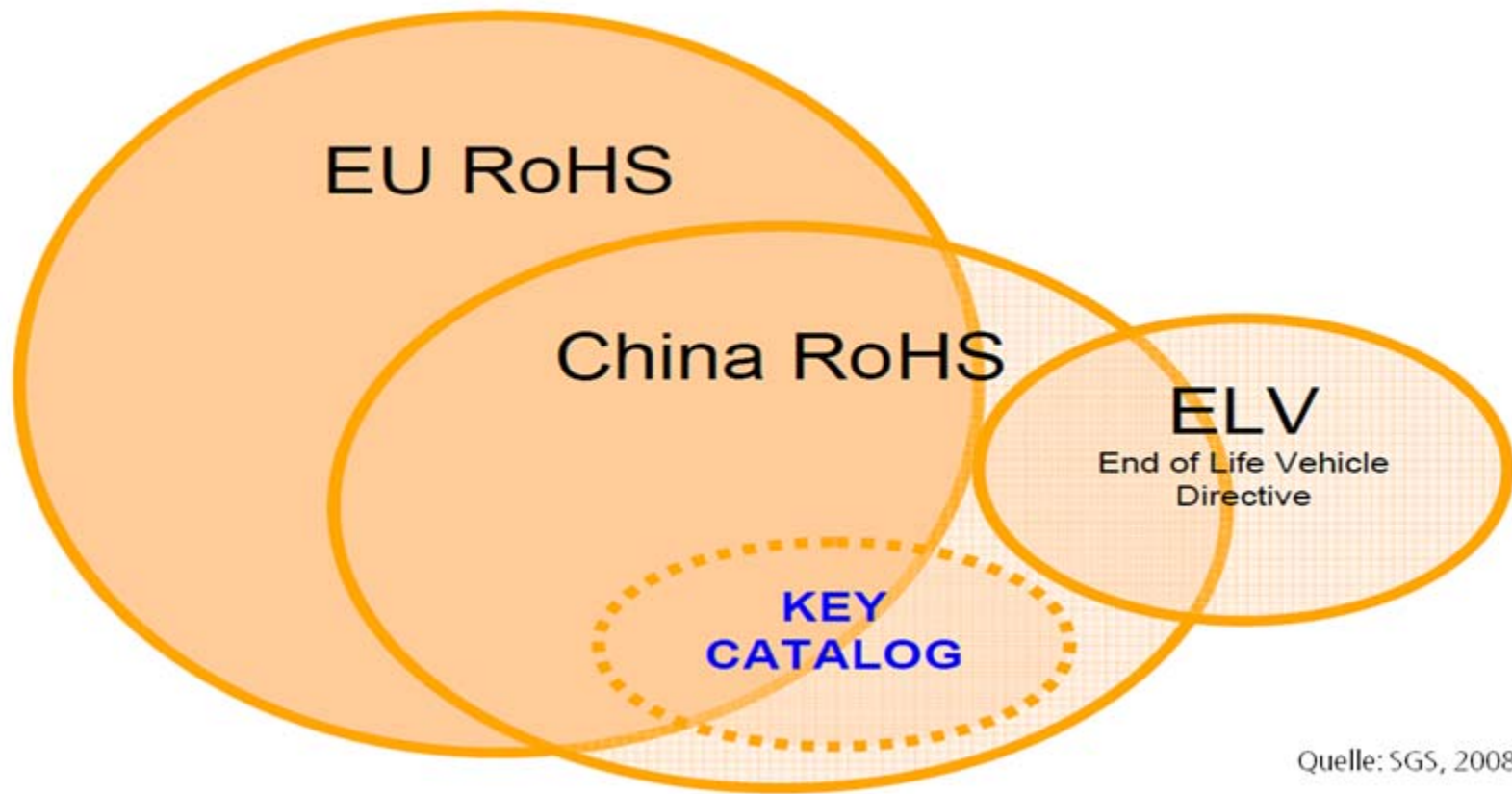
Serial No.	Customs HS Code	Electronic Information Product Category	Restricted Toxic or Hazardous Substances or Elements	Temporary Range of Unrestricted Toxic or Hazardous Substances or Elements (wt% for weight percentage)	Scale of Restricted Use
1	90111010	Mobile phone terminals	The contents of lead, mercury, cadmium, hexavalent chromium, PBBs, and PCBS shall meet the requirements of SJ/T11363-2006 standard	1)- Lead in glass of electronic components; 2)- Lead and cadmium in optical and fiber glass; 3)- Lead in ceramic of electronic ceramic components; 4)- Lead as an alloying element in steel containing up to 0.05 wt% lead; 5)- Lead as an alloying element in aluminum alloy containing up to 0.4 wt% lead; 6)- Lead as an alloying element in copper alloy containing up to 4 wt% lead; 7)- Lead in high melting temperature type solder containing more than 90 wt% lead; 8)- Lead in solder for the package of microchip; 9)- Lead in solder for integrated Circuit Pack; 10)- Lead in solder in connectors with a gold plating or copper plating	Implementation initiated on 103 months after official promulgation of this Catalog
2	90111010	Telephone sets (including corded and cordless phone terminals)	The contents of lead, mercury, cadmium, hexavalent chromium, PBBs, and PCBS shall meet the requirements of SJ/T11363-2006 standard	1)- Lead in glass of electronic components; 2)- Lead and cadmium in optical and fiber glass; 3)- Lead in ceramic of electronic ceramic components; 4)- Lead as an alloying element in steel containing up to 0.05 wt% lead; 5)- Lead as an alloying element in aluminum alloy containing up to 0.4 wt% lead; 6)- Lead as an alloying element in copper alloy containing up to 4 wt% lead; 7)- Lead in high melting temperature type solder containing more than 90 wt% lead; 8)- Lead in solder for the package of microchip; 9)- Lead in solder for integrated Circuit Pack; 10)- Lead in solder in connectors with a gold plating or copper plating	Implementation initiated on 103 months after official promulgation of this Catalog
3	84030110 84030112 84030114 84030116	Printing equipment connected with computers	The contents of lead, mercury, cadmium, hexavalent chromium, PBBs, and PCBS shall meet the requirements of SJ/T11363-2006 standard	1)- Lead in glass of electronic components; 2)- Lead and cadmium in optical and fiber glass; 3)- Lead in ceramic of electronic ceramic components; 4)- Lead as an alloying element in steel containing up to 0.05 wt% lead; 5)- Lead as an alloying element in aluminum alloy containing up to 0.4 wt% lead; 6)- Lead as an alloying element in copper alloy containing up to 4 wt% lead; 7)- Lead in high melting temperature type solder containing more than 90 wt% lead; 8)- Lead in solder for the package of microchip; 9)- Lead in solder for integrated Circuit Pack; 10)- Lead in solder in connectors with a gold plating or copper plating	Implementation initiated on 103 months after official promulgation of this Catalog

Source: Key Administrative Catalog for the Pollution Control of Electronic Information Products (Batch 1), Definition of Product Categories.



Products & Components affected by China RoHS versus EU RoHS

Scope



Global RoHS – China RoHS

Draft Key Catalogue



European Electrical and Electronics Industry
Communication Network : Technical Legislation , Standardization , Certification
欧洲电气电子行业办事处
技术法规 , 标准化 , 认证的沟通网络

■ Draft des Key-Catalogues

1. Highlights: till Oct 2009

- On 9th Oct 2009, MIIT has called for public comments for 'key catalogue of China RoHS CCC' by 9th Nov 2009. It consists of **Mobile Phone, Telephone and Printer**. After the joint approval by 7 related ministries, this key catalogue will be sent to WTO TBT. As introduced by MIIT regulators. It is possible that China RoHS CCC will start to be implemented around **Dec 2010**
- MIIT regulators introduced to EuropElectro delegation that MIIT regulators have bought in the **exemption scope of European RoHS Directive for every 3 products!!!** The official MIIT notice and key catalogue mentioned in item 1 will be translated into English by EuropElectro.
- As introduced by MIIT regulators , **China RoHS voluntary certification for components** will start in 2009. Its purpose is to support China RoHS CCC implementation. The result of voluntary certification for components will be accepted in China RoHS CCC process.

Global RoHS – China RoHS

Draft Key Cataloge



■ Draft des Key-Cataloges

Key Administrative Catalog for the Pollution Control of Electronic Information Products (Batch 1)

Serial No.	Customs HS Code	Electronic Information Product Category	Restricted Toxic or Hazardous Substances or Elements	Temporary Range of Un-restricted Toxic or Hazardous Substances or Elements (wt% for weight percentage)	Date of Restricted Use
2.	85171100 85171800	Telephone sets (including corded and cordless phone terminals)	The contents of lead, mercury, cadmium, hexavalent chromium, PBBs, and PBDEs shall meet the requirements of SJ/T11363-2006 standard.	1) – Lead in glass of electronic components; 2) - Lead and cadmium in optical and filter glass; 3) - Lead in ceramic of electronic ceramic components; 4) - Lead as an alloying element in steel containing up to 0.35 wt% lead; 5) - Lead as an alloying element in aluminum alloy containing up to 0.4 wt% lead; 6) - Lead as an alloying element in copper alloy containing up to 4 wt% lead; 7) - Lead in high melting temperature type solders containing more than 85 wt% lead; 8) - Lead in solders for the connection between the pins and the package of microprocessors with a lead content of 80 to 85 wt%; 9) - Lead in solders for connection internal to certain Integrated Circuit Packages (Flip Chips); 10) - Lead in finishes of fine pitch components (other than connectors) with a pitch of 0.65mm or less with NiFe lead frames or copper lead-frames.	Implementation initiated ten (10) months after official promulgation of this Catalog.

Global RoHS – China RoHS

Draft Key Catalogue

■ Draft des Key-Catalogues



Annex

Key Administrative Catalog for the Pollution Control of Electronic Information Products (Batch 1) Definitions of Product Categories

1. Mobile user terminals

(1) Definition

Cellular mobile terminal equipment based on the GSM (TDMA), CDMA, TD-SCDMA, WCDMA, or CDMA2000 standards, for use in the public service mobile communication networks.

(2) Product examples

GSM (900/1800MHz TDMA) digital cellular mobile phone, CDMA (800MHz) digital cellular mobile phone, TD-SCDMA (2GHz) digital cellular mobile phone, WCDMA (2GHz) digital cellular mobile phone, CDMA2000 (2GHz) digital cellular mobile phone, etc.;

Vehicle-based mobile phone using wireless data card based on the aforementioned standards;

PHS handsets and other terminal equipment capable of receiving the aforementioned network signals.

2. Telephone sets (including corded and cordless phone terminals)

(1) Definition

Corded telephone terminals: Various telephone sets which are connected to user phone lines, for uses as terminals of PSTNs, without working through wireless technologies.

Cordless telephone terminals: Telephone sets for uses as terminals of PSTNs, which are consisted of base stations and handsets. The base station is connected to a PTSN through a phone line, and communicates with the handset using wireless technology. The hand set is portable and can perform the functions of placing outgoing calls, receiving incoming calls and other communication functions, when located within effective range from the base station.

2) Product examples

Corded telephone terminals: Traditional telephone, caller ID display telephone, card-operated telephone, recording telephone, coin-operated telephone, smart-card operated telephone, IC-card operated public telephone, hand-free telephone, digital telephone, smart texting telephone, etc.

Cordless telephone terminals: simulated cordless telephones, 2.4GHz digital cordless telephones, etc.

3. Printing equipment connected with computers

(1) Definition

Printing equipment with communication ports for the computer, which are capable of printing texts, invoices/receipts or photos when connected to IT equipment or can work independently.

(2) Product examples

Laser printer, dot-matrix printer, ink-jet printer, direct thermal printer, thermal transfer printer, invoice/receipt printer, label printer, barcode printer, etc.

Global RoHS – China RoHS

Draft Key Catalogue



European Electrical and Electronics Industry
Communication Network: Technical Legislation, Standardization, Certification
欧洲电气电子行业办事处
技术法规, 标准化, 认证的沟通网络

■ Draft des Key-Catalogues

2 .China RoHS (ACPEIP)implementation diagram - in General

- In general there are 2 phases to implement China RoHS, (status till Dec 2007)

▪ China Administration on the Control of Pollution caused by Electronic Information Products (ACPEIP) was published

1st phase : Marking with Self declaration

- Product scope:
<Classification of EIP> 10
Category product

new

2nd phase : CCC By compulsory certification (not start yet)

- Product scope: <The first key catalogue> is in public comments from Oct 9th 2009 to Nov 9th 2009.
- Regulation is still in discussion

▪ 28th Feb 2006

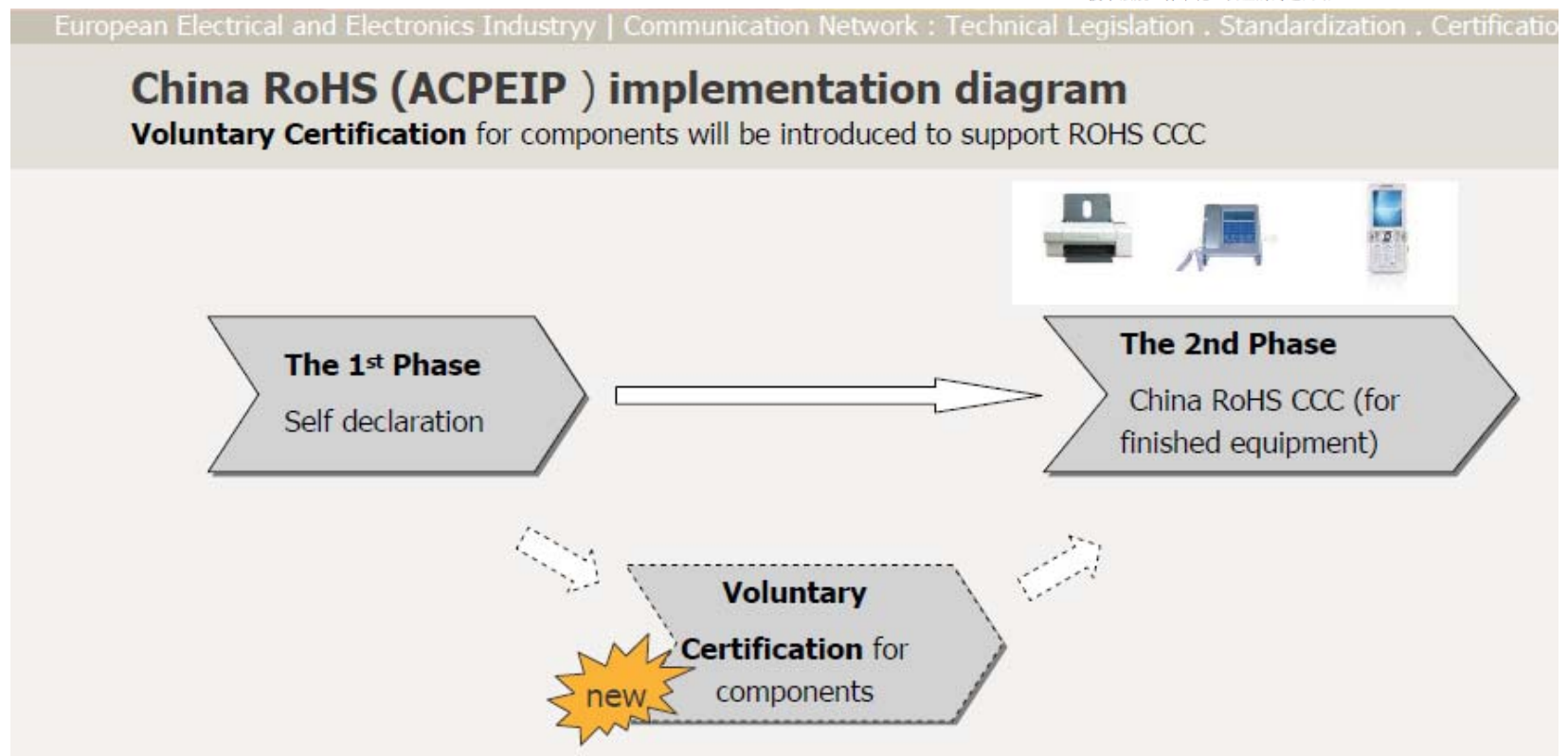
▪ 1st March 2007

▪ Estimated in Dec 2010

Global RoHS – Schwerpunkt China

China RoHS – Draft Key Cataloge

■ Draft des Key-Cataloges



Global RoHS – Schwerpunkt China

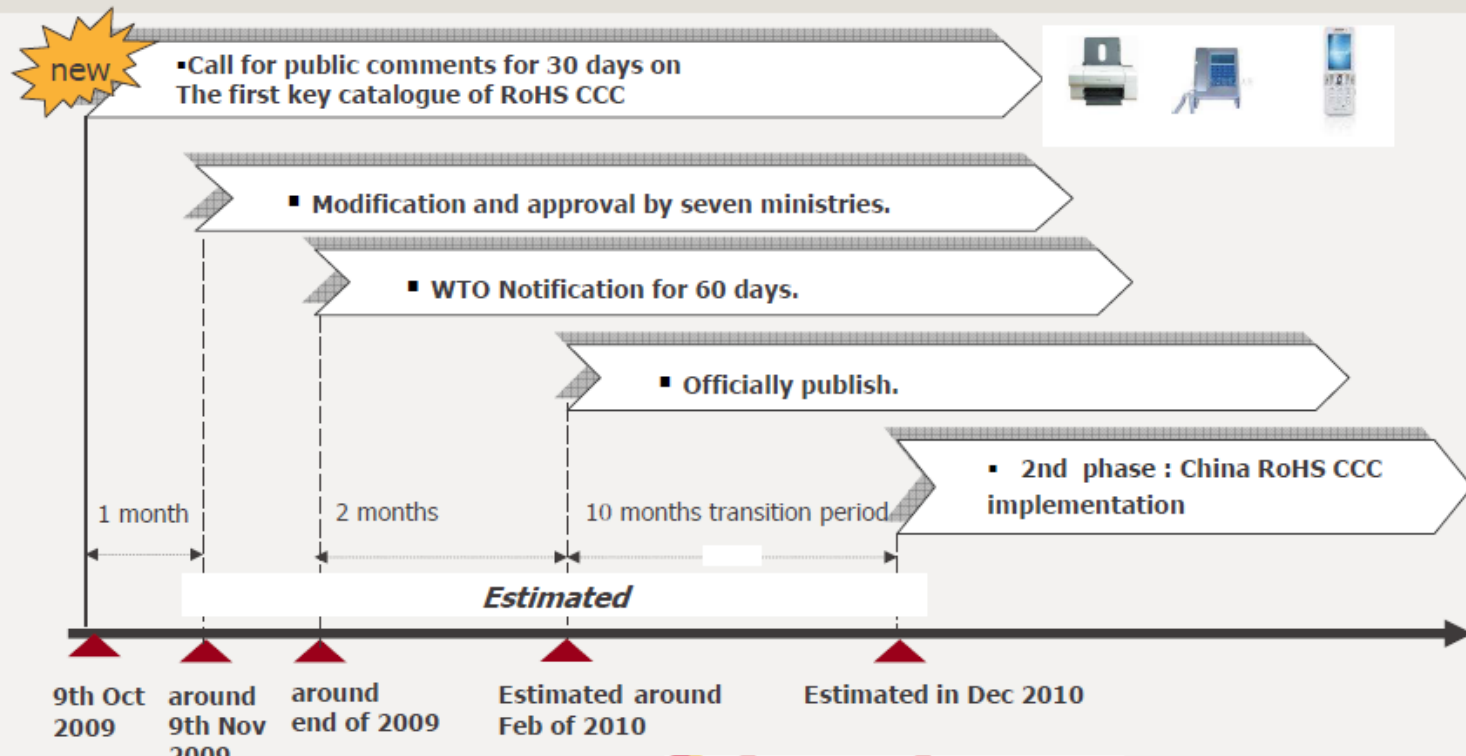
China RoHS – Draft Key Catalogue



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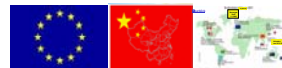
■ Draft des Key-Catalogues

3. China RoHS (ACPEIP) implementation diagram - 2nd phase : Approval Schedule : First Key catalogue for China RoHS CCC



Weitere Beispiele der globalen EEE Schadstoffverbote

- China-ELV
- California-RoHS, USA
- Korean-RoHS
- Japan J-Moss
- Malaysia
- Brasilien
- Australien
- Newuseeland
- Kanada
-



Ziele: Sicherstellung der Legal Schadstoff Compliance

Überblick

RoHS-Status Oktober 2009



Status China ELV (Entwurf von Oktober 2008)

- Alle Fahrzeuge der Kategorie M und N (PKW und Klein-LKW) müssen folgende Vorgaben einhalten:
- Stoffrestriktionen
 - Ausnahmen sind im "Anhang II" gelistet
 - Für alle Fahrzeuge mit Typprüfung ab 2010
 - Für alle anderen Fahrzeuge im Markt (inkl. Ersatzteile) ab 2014
 - "Repair as produced"-Prinzip für Ersatzteile ist bis 2014 zulässig

<i>restricted substances</i>	<i>tolerated maximum concentration values</i>
Lead (Pb)	0,1% by weight
Hexavalent Chromium (Cr 6+)	0,1% by weight
Mercury (Hg)	0,1% by weight
Cadmium (Cd)	0,01% by weight
Polybrominated Biphenyl (PBB)	0,1% by weight
Polybrominated Diphenyl Ether (PBDE)	0,1% by weight

Material and component	Range and exemption term of exception clause		EU ELV Expiry date
	Label	Expiry date	
Lead as an alloying element			
1. Steel for machining purposes & galvanized steel (lead ≤0.35wt%)		2012/01/01	No expiry date
2. Mechanical processing used aluminum product (lead ≤0.4wt%)		2012/01/01	No expiry date
23 (a). PBDE except DecaBDE		2012/01/01	

Japan: J-Moss

- Zu den RoHS 6 Stoffen müssen ab 01.07.2006 Informationen bereitgestellt werden
- Umfasst : Computer, Fernseher, Kühlschränke, Waschmaschinen, Trockner, Mikrowellen und Klimaanlage
- Stoffe: Wie EU-RoHS (Cd, PB, Cr 6+, Hg, PBB, PBDE)
- Grenzwerte: Wie EU-RoHS
- Kennzeichnung: Ja, Produktkennzeichnung in JAPAN – JIS C0950 falls einer der Grenzwerte überschritten
- Gesetzesstatus: In Kraft



Green Mark

- When none of exceeding limits



Figure D.1 Green mark

Source classification	Dependent variable: survival					
	94	95	96	97	98	99
Shooting victims	0.1	0.1	0.1	0.1	0.1	0.1
Shooting witnesses	0.1	0.1	0.1	0.1	0.1	0.1
Shooting victims' families	0.1	0.1	0.1	0.1	0.1	0.1
Shooting witnesses' families	0.1	0.1	0.1	0.1	0.1	0.1
Shooting victims' friends	0.1	0.1	0.1	0.1	0.1	0.1
Shooting witnesses' friends	0.1	0.1	0.1	0.1	0.1	0.1

NOTE: The "0.1" indicates that the percentage estimate of the odds-ratio to be estimated is not statistically significant at the 0.05 level.

NOTE: The "0.1" indicates that the specific statistical significance corresponds to the 0.1 level compared to the 0.05 level.

1000



Türkei: Turkey RoHS Law

Annex-2

Exemptions from Section A of the 1st clause of the 5th Article for the Lead (Pb), Mercury (Hg), Cr6+, PBB, PBDE and Cadmium (Cd) Levels

A – Maximal acceptable concentration levels of Lead (Pb), mercury (hg), cr6+, biphenyls with polibromide (pbb) and biphenyl ethers with polibromide and cadmium (Cd) in a homogenous substance.

Substance	Amount (As the weight in a homogenous material)
Mercury (Hg)	%0,1
(Cr6+)	%0,1
Biphenyl with polibromide (PBB)	%0,1
Biphenyl ether with polibromide	%0,1
Lead (Pb)	%0,1
Cadmium (Cd)	%0,01

30 May 2008 FRIDAY

Official Newspaper

Number: 26891

REGULATION

From the Ministry of Environment and Forestry:

Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

SECTION ONE

Aim, Scope, Support, Definitions and Shortenings

Aim:

ARTICLE 1 – (1) The purpose of this regulation is to protect the environment and human health; through the limitation of the use of some harmful materials within electronic and electrical goods, determination of applications which will be exempt from this limitation, establishment of administrative, legal and technical principles that are related to the controlled importation of electrical and electronic goods, and setting the fundamentals and principles of recycling electronic and electrical goods in an environment .

Scope:

ARTICLE 2 – (1) This regulation covers electronic and electrical goods, electrical lamps and other lighting equipment to be used at home that are grouped under the classes 1, 2, 3, 4, 5, 6, 7 and 10 that are given in Annex-1A.

(2) Spare parts to be used for maintenance services and products with military applications, which were placed in the market before the effective date of this regulation, are not subject to it.

(3) Batteries and accumulators that are placed in electronic and electrical goods are subject to the Regulation on the control of the waste battery and accumulators dated 31/8/2004.

US-RoHS Entwurf

II. US RoHS

On May 14, 2009, a legislation has been proposed in the United States Congress H.R. 2420 titled "the Environmental Design of Electrical Equipment Act (EDEE) by amending the Toxic Substances Control Act of 1976. The bill aims to create a consistent Federal scheme for restriction of certain substances in electrical products and equipment in interstate and foreign commerce. In recent years, certain States in the US have passed or proposed laws with disparate requirements for restriction of hazardous substances in electrical equipment with potential to negatively impact domestic and foreign trade in such equipment.

H.R. 2420 applies to 'electroindustry products' manufactured after July 1, 2010 designed for use with a voltage rating of up to 300 volts. Electroindustry products are those used to "facilitate the transmission, distribution, or control of electricity, or that uses electrical power for arc welding, lighting, signaling protection and communication, or medical imaging, or electrical motors and generators".

Electroindustry products will be subject to a national standard of restrictions on hazardous substances at homogenous material level. These restrictions are same as those under EU RoHS as described in table 2. Following the enactment of this regulation, any other State or sub-division of a State will be pre-empted from adopting a future restriction or enforcing a current restriction that is inconsistent with or stringent than the proposed National Standard.

For fiscal year 2009 the bill proposes an appropriation of USD 1,000,000 for the Administrator of this Act to implement the provisions of this law.

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Proposed Effective Date	Regulated Substances	Limits (w/w)
2010.7.1	Cadmium	0.01%
	Lead	0.1%
	Mercury	0.1%
	Hexavalent Chromium	0.1%
	Polybrominated biphenyls, PBBs	0.1%
	Polybrominated diphenyl ethers, PBDEs	0.1%

Table 2. Regulated substances of US RoHS and permissible limit based on homogeneous materials

US-RoHS Entwurf



Proposed Effective Date	Regulated Substances	Limits (w/w)
2010.7.1	Cadmium	0.01%
	Lead	0.1%
	Mercury	0.1%
	Hexavalent Chromium	0.1%
	Polybrominated biphenyls, PBBs	0.1%
	Polybrominated diphenyl ethers, PBDEs	0.1%

Table 2. Regulated substances of US RoHS and permissible limit based on homogeneous materials

US Federal RoHS regulation proposed

A bill, H.R.2420, has been introduced in the US House of Representatives concerning the restriction of hazardous substances. Is this to be the US RoHS? Initially this might appear to be so, however closer scrutiny of the scope and structure of H.R. 2420 reveals that it is better understood as an effort to limit uncoordinated piecemeal legislation on this issue by individual states. At present there is no federal US equivalent of EU-RoHS but several states have introduced limited RoHS-like laws including California which restricts the four RoHS metals in covered electronic devices, many other states also restrict mercury. Many manufacturers would welcome a single, uniform US RoHS law as this would remove the need to meet multiple changing requirements across US states although others who sell predominantly internally would be concerned about this extra restriction.

Introduced on 14 May 2009 H.R. 2420¹ suggests it will provide a single EU RoHS-like law for electrical products covering the whole of the US, amending the of 1976 Toxic Substances Control Act (TSCA). TSCA or TOSCA provides the Environmental Protection Agency (EPA) with the authority to require the reporting, record-keeping, testing and restriction of chemical substances and mixtures.² The main implications of H.R. 2420 are for new chemicals or major new uses of existing ones for example, products containing substances that are not included in the TSCA register require certification before they can be imported. TSCA currently imposes very few restrictions on substances, but it does affect lead-based paints, asbestos and polychlorinated biphenyls.

The Bill's **substance scope** proposes to restrict the same 6 substances as EU RoHS and at the same concentration values in homogeneous materials; lead, mercury, hexavalent chromium, PBB and PBDEs at above 0.1% by weight, cadmium at above 0.01% by weight. Many **exemptions** to this are proposed some of which are equivalent to EU RoHS and some of which are different. There are no apparent equivalents to EU RoHS exemptions 5, 7b, 7c, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 27, 29, 30 and 32 – mainly because they are only needed for uses in equipment not covered by this bill. Under H.R.2420 compliance may be shown via an appropriate method including certification of compliance by the manufacturer or testing according to methods yet to be defined but likely to follow IEC 62321.

These restrictions would apply to products in scope **manufactured** after 1 July 2010. Assuming this definition follows that debated when revision of California RoHS was proposed, it would apply wherever the product was manufactured, not just in the US; thus avoiding the problems associated with defining the term placed on the market. From this deadline **no more stringent or conflicting requirements** may be applied within the US.

H.R.2420 states that its **product scope** is "electroindustry products" which it defines as "any product or equipment that is directly used to facilitate the transmission, distribution, or control of electricity, or that uses electrical power for arc welding, lighting, signaling protection and communication, or medical imaging, or electrical motors and generators". This appears quite different to EU-RoHS as it seems to exclude household or consumer products and include products not covered by EU-RoHS like electricity distribution equipment.

US-RoHS Entwurf



Proposed Effective Date	Regulated Substances	Limits (w/w)
2010.7.1	Cadmium	0.01%
	Lead	0.1%
	Mercury	0.1%
	Hexavalent Chromium	0.1%
	Polybrominated biphenyls, PBBs	0.1%
	Polybrominated diphenyl ethers, PBDEs	0.1%

Table 2. Regulated substances of US RoHS and permissible limit based on homogeneous materials

The proposal includes a detailed list of **exemptions from scope** of the substance restrictions which shall apply federally and at State or any other local level. There are many examples of exemptions listed which appear to contradict the scope of this proposed legislation. This would apply to the following exceptions:

- products or equipment designed for use with a voltage rating $\geq 300V$, products or equipment used in fixed installations, signaling protection and communication systems and products, including healthcare communications and emergency call systems.
- surface transportation information management and control systems, subsystems, equipment, components, and services, including equipment used to design, install, operate, and maintain these.
- medical diagnostic imaging and therapy equipment and devices, modular walls, consoles, systems, products, panels, meters, and monitors used in healthcare facilities.
- shunt capacitors and series capacitors.
- electro-mechanical and solid-state equipment and systems for measurement, display recording, processing, and telemetry for electricity metering and associated information.
- distribution and power transformers and special purpose transformers.
- equipment used for mounting or testing watt-hour or demand meters such as sockets, boxes, enclosures, test blocks, test tables, and test kits.
- high voltage fuses, high current connectors, power circuit breakers, switchgear assemblies, surge arrestors, and insulating equipment, products, and hardware.
- steam turbine generators and units.
- electrical wire and cable products and accessories, not including fixture wires, appliance wires, and flexible cords as so classified by the National Electrical Code, Underwriters Laboratories Inc., or the Canadian Standards Association.
- electrical conduits.
- high intensity discharge lamps.
- arc welding and plasma cutting equipment designed for industrial or professional use; or arc welding and cutting equipment driven by mechanical means, e.g., a gasoline or diesel engine.

Consequently H.R. 2420 would be substantively different from EU RoHS. EU-RoHS excludes products designed for use with voltages above 1000V AC or 1500V DC whereas H.R. 2420 has a limit of 300V (essentially single or three phase mains powered equipment.) There is no use of the EU-RoHS categories; medical imaging equipment is specifically included in the scope although specifically excluded from substance restrictions whereas EU Category 8 (medical) is likely to be brought within scope of EU-RoHS soon. There is also a much wider range of exclusions of infrastructure and power equipment including fixed installation – a major subject of contention and uncertainty in EU legislation.

This draft bill is brief but mainly consists of a detailed list of exclusions and exemptions. The scope is also quite limited and is clearly different to EU RoHS. Although not stated, it appears that the **main purpose of this bill** is actually to prevent US States and local authorities from imposing RoHS-substance restrictions on products that are covered by this proposed bill which is why the scope includes many items currently excluded from EU-RoHS. It is therefore clearly not a federal RoHS Bill, more an attempt to avoid disjointed RoHS requirements emerging for products currently outside or on the fringe of the scope of EU-RoHS.

H.R. 2420 would not prevent the future adoption of federal RoHS-type legislation including IT, consumer, household and other equipment; but we will have to wait for this. Currently the bill has been referred to the House Committee on Energy and Commerce and has a long way to go before becoming law. Even so, the greener hue of the new US Administration coupled with the **inevitable spread of RoHS requirements worldwide may now make a federal RoHS law a preferable option.**

¹ H.R. 2420: Environmental Design of Electrical Equipment Act (EDEE) Act http://www.ec-central.org/LEAD-FREE/HR_2420.pdf

² TSCA, <http://www.epa.gov/lawsregs/laws/tsc.html>

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USA – Kalifornien (California-RoHS)

Umfasst folgende Geräte:

- Cathode ray tube containing devices (CRT devices)
- Cathode ray tubes (CRTs)
- Computer monitors containing cathode ray tubes
- Laptop computers with liquid crystal display (LCD)
- LCD containing desktop
- Televisions containing cathode ray tubes
- Televisions containing liquid crystal display (LCD) screens
- Plasma televisions (Bildschirmdiagonale ≥ 4 inch)

Stoffe: hexavalentes Chrom, Blei, Quecksilber, Cadmium (Cd, PB, Cr 6+, Hg)

Grenzwerte: wie bei Eu-RoHS

Ausnahmen: wie bei EU-RoHS

Kennzeichnung: Nein

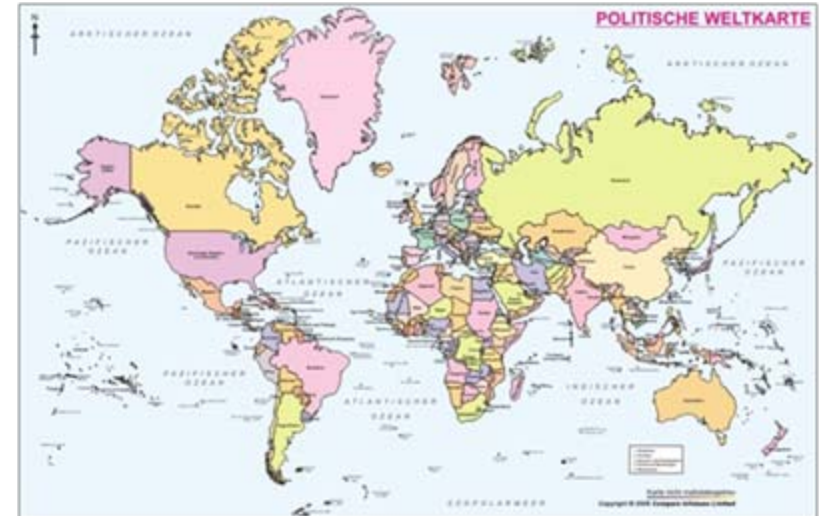
- Jährlich muss ein **Bericht an die CIWMB** über die Benutzung der beschränkten Stoffe in den gelisteten Produkten angefertigt werden.

Gesetzesstatus: In Kraft

Nord Amerika

U.S. and Canada RoHS Product Content Restrictions

State or Province	RoHS Rules in Effect	E-Waste Study	RoHS Product Content Restrictions
U.S. Government	Pending	Yes	PBDE/BDE Ban Lead Ban in Toys
California	Yes More Pending	No	Electronic Products (1/1/07) Cell Phones PBDE/BDE Ban Hg Relays/Switches
Connecticut	Yes More Pending	No	PBDE Ban (1/1/08) Hg Content
Florida	Yes More Pending	No	Batteries Containing Hg
Hawaii	Yes More Pending	Yes	PBDE/BDE Ban (1/1/06)
Illinois	Yes More Pending	Yes	PBDE/BDE Ban (1/1/06) Hg Content
Maine	Yes	No	PBDE/BDE Ban (1/1/06)
Maryland	Yes	Yes	PBDE/BDE Ban (10/1/08)
Massachusetts	Pending	No	Hg Content
Michigan	Yes More Pending	Yes	PBDE/BDE Ban (6/1/06)
Minnesota	Yes More Pending	No	PBDE/BDE Ban (1/1/06)
Montana	Pending	No	PBDE Ban
New Hampshire	Yes More Pending	Yes	Hg Products (1/1/07)
New Jersey	Pending	No	Electronic Equipment
New York	Yes More Pending	Yes	PBDE/BDE Ban (1/1/06)
Ohio	Pending	No	Hg Products
Oregon	Yes More Pending	Yes	PBDE/BDE Ban (1/1/08)
Rhode Island	Yes More Pending	Yes	Hg Content (1/1/06)
Texas	Pending	No	Electronic Equipment
Vermont	Yes More Pending	Yes	Electronic Equipment Hg Products
Washington	Yes More Pending	Yes	Electronic Products (1/1/07) PBDE/BDE Ban Select Hg Products
Wisconsin	Pending	No	Electronic Products
Nova Scotia	Pending	No	Electronic Equipment



Quelle: David Kluk, Adrian de Krom
<http://www.nslanalytical.com/pdf/RoHS%20Article2.pdf>

US-Oregon: Verbot von DecaBDE in Elektronikprodukten

SAFE GUARDS

SGS CONSUMER TESTING SERVICES

HARDLINES, SOFTLINES, ELECTRICAL & ELECTRONICS

NO. 121/09 AUGUST 2009

US STATE OF OREGON BANS DECA-BDE IN CONSUMER PRODUCTS

State of Oregon joins Maine ¹, Vermont ², and Washington ³ in banning the use of decabromodiphenyl ether (Deca-BDE) in Consumer Products. The ban in Oregon takes effect on January 1, 2011.

In June 2009, the Governor of Oregon signed into law ⁴ SB 596 'An Act relating to decabrominated diphenyl ether; creating new provisions and amending ORS 453.005, 453.025 and 453.085'. Penta- and Octa-BDE have been restricted since 2006 ⁵. Deca-BDE along with Penta-BDE and Octa-BDE belong to a class of brominated flame retardants (BFRs) commonly known as Polybrominated Diphenyl Ethers (PBDEs).

Deca-BDE is used as a flame retardant in plastic polymers such as High Impact Polystyrene (HIPS). It is also used in computer and television casings, drapery and upholstery fabrics as well as mattresses and other consumer products. Highlights on the Oregon State restriction on PBDEs are summarised in Table 1.



State	Substance	Scope	Requirement	Effective date
Oregon	Penta-BDE	Product	≤ 0.1 %	January 1, 2006
	Octa-BDE		≤ 0.1 %	January 1, 2006
	Deca-BDE		≤ 0.1 %	January 1, 2011

Table 1

Exceptions

- Used products or
- Replacement parts for products containing > 0.1 % Penta-BDE or Octa-BDE introduced into commerce before January 1, 2006, or
- Replacement parts for products containing > 0.1 % Deca-BDE introduced into commerce before January 1, 2011.

US-Vermont: Verbot von PBDE in Elektronikprodukten

US STATE OF VERMONT BANS CONSUMER PRODUCTS CONTAINING BROMINATED FLAME RETARDANTS (BFRs)

The US State of Vermont recently approved measures to ban polybrominated flame retardants in consumer products. The ban on Penta-BDE and Octa-BDE will be effective July 1, 2010. The effective date for Deca-BDE is dependent on the nature of the product and starts on July 1, 2012.



On May 12, 2009, the governor of Vermont signed bill H. 444 'An Act Relating to Health Reform' into law¹. As part of the new law, the BFRs Pentabromodiphenyl Ether (Penta-BDE), Octabromodiphenyl Ether (Octa-BDE) and Decabromodiphenyl Ether (Deca-BDE) are restricted in consumer products. Highlights on the new measures are summarised in Table 1. In the US, a number of states such as California², Maine³ and Washington⁴ have previously banned the use of polybrominated diphenyl ethers.

¹ An Act Relating to Health Reform, H. 444 (Act 611), 2009-2010 Legislative Session, <http://www.leg.state.vt.us/docs/2010/Acts/ACT061.pdf>

² Polybrominated Diphenyl Ethers, Chapter 10 (commencing with Section 106920) Part 3 of Division 104 of the Health and Safety Code, AB 2602, Session 2007

³ The State of Maine Bans the use of Deca-BDE in Consumer Products, Safeguards No. 5307, SGS Consumer Testing Services, June 2007

⁴ The State of Washington Bans the use of PBDEs in Consumer Products, Safeguards 2407, SGS Consumer Testing Services, May 2007



HARDLINES, SOFTLINES, ELECTRICAL & ELECTRONIC

NO. 116/09 JUNE 2009

State	Act (bill)	Substance	Scope	Requirement	Effective Date
Vermont	Act 61, Chapter 80 Flame Retardants § 2971 Brominated Flame Retardants (H. 444, 2009-2010)	Penta-BDE	Product	≤ 0.1 %	July 1, 2010
		Octa-BDE	Product	≤ 0.1 %	July 1, 2010
		Deca-BDE	a. Mattress or mattress pad b. Upholstered furniture Exemption Inventory purchased before July 1, 2009	≤ 0.1 %	July 1, 2010
			Television or computer with a plastic housing Exemption a. Inventory purchased before July 1, 2009 b. sale or resale of used products c. motor vehicles or their parts	≤ 0.1 %	July 1, 2012

Table 1

KOREAN RoHS UPDATE ON IMPLEMENTATION

Korean RoHS has several differences compared to the European version, the main one being that it also includes the ELV and WEEE laws.



**Gesetzesstatus:
Inkrafttreten
1.01.2008**

(Continued from Page 1)

SELF REPORTING PRINCIPLE

All manufacturers and importers in the fields of electrical & electronics and automobiles, need to fill in bulletins with recycling characteristics of their products on the ECOAS (<http://www.ecoas.or.kr/>) home page or can directly inform ENVICO (Korea Environment & Resources Corporation).

- Personal computers (incl. monitor & keyboard)
- Audio (excluding portable devices)
- Mobile phones (incl. battery & charger)
- Printers (incl. toner & cartridge)
- Photocopiers (incl. toner & cartridge)
- Facsimiles (incl. toner & cartridge)

The Korean RoHS bans the same hazardous substances as the EU RoHS and also includes the same exceptions. It's based on a self-declaration system, with no special mark needed and does not apply to parts manufactured before 2008 and Research & Development samples.

The Korean government expects the regulation to influence manufacturers to consider environmentally friendly designs for their goods and to improve the cooperation between manufacturers and recyclers.

Australien und Neuseeland

- Die Australische Regierung hat, aufbauend auf einer Umfrage unter Unternehmen, die bereits von der EU-RoHS tangiert werden oder einer Australischen Regelung betroffen wären, drei mögliche Modelle vorgestellt:
 - Kein RoHS
 - Freiwillige RoHS
 - Gesetzliche RoHS
- 74% der befragten Unternehmen gaben an, dass sie die EU-RoHS-Bestimmungen für ihre Produkte gerne auf Australien ausweiten würden.
- 53% glauben, dass Großimporteure von Elektro- und Elektronikgeräten die EU-RoHS-konformität ausweiten werden.
- 62 % glauben nicht, dass Kleinimporteure dies tun werden.
- >30% meinen, man sollte in Australien eine EU-RoHS ähnliche Gesetzgebung einführen, in einer Zeitskala von 1-4 Jahren. Teilweise wird aber auch längere Vorlaufzeit gefordert.
- Wunsch nach Übereinstimmung mit der EU-RoHS

Internationale Stoffverbote – California-RoHS

Global RoHS – Schwerpunkt Kalifornien



+



= Prop
65

No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual.

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – Proposition 65

- 800+ chemicals on current list
- 250 have Safe Harbor Limits
- Warning Labels
- Chemicals are listed and delisted by “state qualified experts” appointed by the Governor, OEHHA under EPA (Office of Environmental Health Hazard Assessment)
- Chemicals are known to be either carcinogens or reproductive toxins
- Grace period: 12 months

Breakfast at the Forest Cafe

Special with your choice of fresh fruit or delisted, essential and just choice of wheat, wheat, rice, bran, oatmeal or English muffins

Breakfast

#1 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#2 Breakfast	Pancakes, French Toast, French Toast with 2 eggs any style	\$4.95
#3 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#4 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#5 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#6 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#7 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#8 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#9 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
#10 Breakfast	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95

Home Specials

Home Special	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95
Home Special	French Toast, French Toast, French Toast with 2 eggs any style	\$4.95

Breakfast Side Orders

French Toast	\$1.50	French Toast	\$1.50
Pancakes	\$1.50	French Toast	\$1.50
French Toast	\$1.50	French Toast	\$1.50
French Toast	\$1.50	French Toast	\$1.50

Beverages

Coffee	\$1.25	Hot Tea	\$1.25
Hot Chocolate	\$1.25	Hot Cider	\$1.25
Milk	\$1.25	Hot Tea	\$1.25
Chocolate Milk	\$1.25	Hot Cider	\$1.25
Juice	\$1.25	Hot Tea	\$1.25
Orange Juice	\$1.25	Hot Cider	\$1.25

Prop 65: Warning: Chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm may be present in foods or beverages sold here.

Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – Proposition 65

■ California Proposition 65 - Umsetzung

- Prop. 65 is enforced exclusively through lawsuits and legal settlements, brought either by Public Prosecutors or Private Citizens
- With financial incentives designed to promote a bounty-hunter ambience, Prop. 65 infuses the flavor of vigilante justice (old American wild west) into the economy of modern California



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – Proposition 65

■ California Proposition 65 – betroffene Chemikalien (Stoffe)



- Lead and lead compounds
- Chromium and hexavalent chromium
- Arsenic
- Crystalline silica
- Tobacco smoke
- Nickel and nickel compound
- Mercury
- Formaldehyde
- Phthalates (children's products)
- Flame Retardants (children's products, home furnishings)
- Poly chloro phenols (leather based products)
- Insecticide and pesticide residue (ingredient base – example: lanoline (wool wax) used in cosmetic products)
- Cadmium



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – Proposition 65

■ California Proposition 65 - Warnhinweise

- One or more listed chemicals can cause cancer or birth defect and reproductive harm
- Causing chemicals are present in the product, presumably exceeding the defined safe level
- A proposition 65 warning means one of two things:
 - the business has evaluated the exposure and has concluded that it exceeds the “no significant risk level”
 - the business has chosen to provide a warning simply based on its knowledge about the presence of a listed chemical without attempting to evaluate the exposure.

CAUTION-PROP 65 WARNING- Handling the coated electrical wires of this product may expose you to lead, a chemical known in the state of California to cause cancer, birth defects or other reproductive harm. Wash hands after use.



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS - Stoffverbote

- Restriction of Hazardous Substances (RoHS)
- Limit the amounts of certain hazardous heavy metals in specific waste electronic devices so that those metals never find their way into landfills where they can be released into the environment
- Modeled after the EU's RoHS Directive which bans certain hazardous substances from electrical and electronic equipment
- Effective January 1, 2007



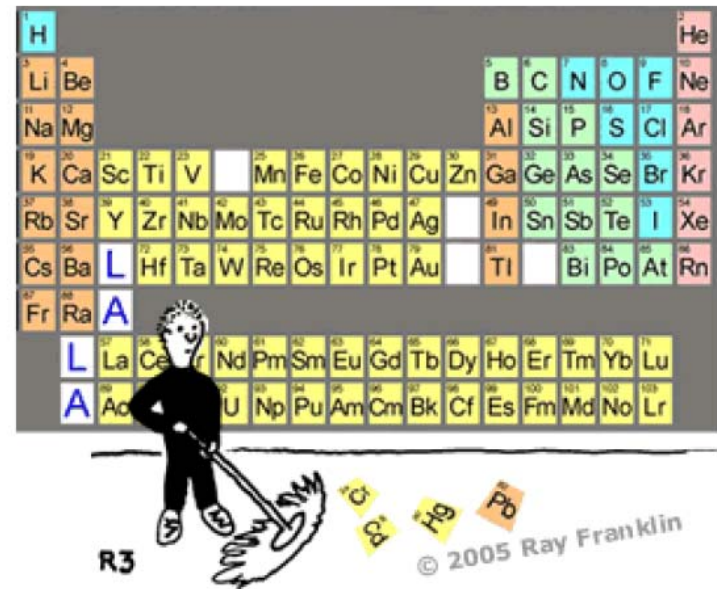
Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS - Grenzwerte

<u>Restricted Substances</u>	<u>RoHS Limits</u>
Lead	1000 ppm
Hex. Chromium	1000 ppm
Mercury	1000 ppm
Cadmium	100 ppm



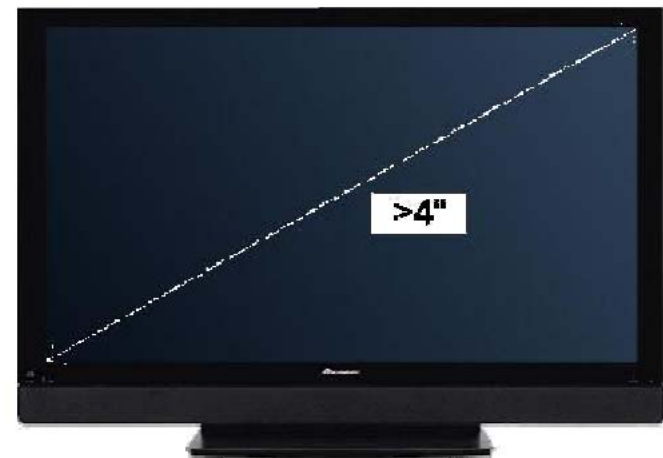
Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS – betroffene Anwender

- Anyone who sells or offers for sale a covered electronic device in California including
 - Manufacturers
 - Distributors
 - Wholesalers
 - Retailers
- Covered Electronic Device
 - A video display device with a screen greater than four inches, measured diagonally.



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS – betroffene Produkte

- Cathode ray tube containing devices (CRT devices)
- Cathode ray tubes (CRTs)
- Computer monitors containing CRTs
- Laptop computers with liquid crystal display (LCD)
- LCD containing desktop monitors
- Televisions containing CRTs
- Televisions containing LCD screens
- Plasma televisions
- Portable DVD players with LCD screens



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS – Ausnahmen / ausgenommene Produkte

- A video display device that is a part of a motor vehicle including replacement parts for use in a motor vehicle
- A video display device that is contained within or a part of a piece of industrial, commercial, or medical equipment, including monitoring or control equipment
- A video display device that is contained within a clothes washer, clothes dryer, refrigerator, refrigerator and freezer, microwave oven, conventional oven or range, dishwasher, room air-conditioner, dehumidifier, or air purifier



Quelle: Intertek-USA 2010

Global RoHS – Schwerpunkt Kalifornien

California Green Regulations – California RoHS

■ California RoHS – Grenzwerte, Berichtspflichten

- Compliance with Maximum Concentration Values
- Manufacturers are required to submit an annual report to the California Board of Equalization
 - General Information (e.g., name, address, phone no, contact person)
 - Estimated amount of covered electronic devices sold during previous year
 - Content for Cadmium, Lead, Mercury and Hexavalent Chromium including their alloys and compounds and PBBs used.
- Manufacturers are required to submit an annual report to The California Integrated Waste Management Board on or by July 1st every year.

Quelle: Intertek-USA 2010

Global RoHS – Südamerika und Karibik

Südamerika und Karibik - LAC-Countries

**Environmental Product-Related
Regulations for the Electronics Industry in
Latin America & the Caribbean (LAC)**
Compliance & Risks webinar 28 Jan. 2010



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Global RoHS – Südamerika und Karibik

Südamerika und Karibik - LAC-Countries

■ Herausforderung

Big Picture –Takeaway Points

- Ignore LAC at your peril - avoid perception traps about LAC's legislation, control entities and enforcement.
- LAC legislators borrow heavily from Europe, regulators heavily from international standards, but both increasingly *from other LAC nations*.
- LAC is already very active on batteries, packaging and energy efficiency, increasingly so on WEEE. I expect some breakthroughs on WEEE in 2010. RoHS lags but that may be changing.
- New initiatives on green purchasing, climate change and chemicals also changing the picture.

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Global RoHS – Südamerika und Karibik

Südamerika und Karibik - LAC-Countries

■ RoHS

Environmental Product-Related Regulations for Electronics in LAC - RoHS

Context

- LAC has been slower to embrace the idea of RoHS legislation, perhaps because most actors keenly aware that chemicals regulation under-developed in region.
- Some nations may follow Brazilian lead, first incorporating RoHS criteria in government procurement (remember Chile is also developing a green purchasing program) and seek technical standards based on EU criteria.
- I expect LAC interest in RoHS to grow as result of EPEAT expansion in the region, Greenpeace campaigns, and the side-effects of such influences as EU RoHS debates, global mercury talks, UN mercury programs in region, POPs & GHS implementation, and SAICM (Strategic Approach to Chemicals Management).

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Global RoHS – Südamerika und Karibik

Südamerika und Karibik - LAC-Countries

■ Aktuelles

Environmental Product-Related Regulations for Electronics in LAC – RoHS(2)

Current Activity

- Combined WEEE/RoHS bills now pending in Argentina, Brazil, Uruguay. Standalone RoHS bills pending in Brazilian National Congress. Some Brazilian states now looking at RoHS issue – remember, SP WEEE law originally had RoHS element but that was line-item vetoed by governor.
- New Brazilian sustainability criteria for federal government procurement require proof of compliance with RoHS limits on Pb, Cd, Hg, Cr(VI), PBB, PBDE. States that are working on green purchasing (MG, PI, RJ, SP) may follow suit.
- Brazilian Standards body ABNT has created a study group for technical norms based on EU's WEEE and RoHS Directives.
- Linked emerging issue of laws/regulations in 4 Brazilian states (with bills with similar language pending in other states) on “artifacts” containing heavy metals.

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Global - RoHS

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