

NIST Workshop on Sustainable Manufacturing: Metrics, Standards, and Infrastructure

Environmental Printing and Compliance Mgt

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ColorQube 9200 Series – Vectors of Differentiation

The central image shows a Xerox ColorQube 9200 Series printer, a large-format color copier with a blue and white design. It is surrounded by four callout boxes, each representing a key feature:

- Low Cost Color:** Located in the top-left corner, featuring a purple-to-white gradient background and a small image of a printed document with vibrant colors.
- Environmental Printing:** Located in the top-right corner, featuring a green-to-white gradient background and a small image of green grass.
- Ease of Use:** Located in the bottom-left corner, featuring an orange-to-white gradient background and a small image of a stack of colorful paper.
- Innovation:** Located in the bottom-right corner, featuring a light blue-to-white gradient background and a small image of a printer's internal mechanism.

Below the printer, the text "ColorQube 9200 Series" is displayed in a blue font.

ColorQube 9200 Series – Environmental Printing

2009 ENERGY STAR® Qualified



The ColorQube 9200 series meets stringent standards for reduced power consumption. A product's Typical Electricity Consumption (TEC) is a key factor in receiving ENERGY STAR status.

Smaller Carbon Footprint



Solid ink technology uses fewer material resources and less energy across the product lifecycle, from manufacturing to transport to end of life.

Reduce Printing Waste

Laser: 815 lbs.



Cartridge-free solid ink is a true consumable, producing 90% less waste than comparable color laser devices. For instance, after printing 22,000 pages a month for 4 years, a solid ink product's waste amounts to 88 lbs. vs. a whopping 815 lbs. of waste from a laser device.

Cartridge-free means local recycling



Unlike toner cartridges, solid ink waste is primarily a small amount of packaging, which can be recycled locally using your usual method.

ColorQube 9200 Series – Less Waste



Less Waste

Cartridge-free solid ink technology produces 90% less waste than a comparable laser device.

Clean, Safe, Solid Ink



No-mess, non-toxic solid ink is safe for anyone to handle and won't stain clothes, skin, or furniture.



Solid Ink: 88 lbs



Laser: 815 lbs

Total waste produced from printing 22,000 pages per month for 4 years

October 13, 2009

ColorQube 9200 Series – Awards

Publication	Quote/Award	Date
 Buyers Laboratory Inc.	<p>The Xerox ColorQube 9200 series multifunction printer was selected as a Pick of the Year by Buyers Laboratory Inc. (BLI), receiving an "Outstanding Achievement Award for Innovation."</p> <p>> view ColorQube 9200 Series BLI Certificate</p>	June 2009
 BERTL	<p>BERTL awarded the ColorQube 9200 Series multifunction printer a BERTL's Best recognition in the Most Innovative Color Printer Pricing category for its three-tier hybrid color plan.</p> <p>> view ColorQube 9200 Series BERTL's Best certificate</p>	June 4, 2009
 InfoTrends	<p>In an in-depth evaluation titled "Xerox ColorQube: New Solid Ink-Based MFPs Bring Affordable Color to the Office," InfoTrends states, "Xerox's ColorQube 9200 series delivers all the important attributes of an ink-based product that are necessary to truly disrupt the office MFP market."</p> <p>> read the InfoTrends analysis</p>	May 7, 2009
 Imaging Strategies	<p>The Imaging Strategies Product Report, "Xerox ColorQube 9200: Poised for Market Disruption," by Jonathan Bees, provides a thorough analysis of the ColorQube 9201/9202/9203 multifunction printer and concludes, "We believe the ColorQube 9200 Series provides the best of all worlds: low operating costs, flexible pricing plans, a full range of features and an environmentally responsible technology."</p> <p>> read the Imaging Strategies report</p>	May 7, 2009
 Hard Copy Observer	<p>In the article, "Xerox ColorQube: The First Truly Universal Color MFP?," the Hard Copy Observer evaluates the ColorQube 9201/9202/9203 multifunction printer on points such as speed, image quality, pricing model, paper handling, controller features, functionality and the competition and calls it "Business Unusual: A Bold and Innovative Play."</p> <p>> read Hard Copy Observer article reprint</p>	May 2009

Numerous product content restrictions placed on companies

Restricted Substances Regulations

RoHS

- Lead (1000 ppm)
- Mercury (1000 ppm)
- Hexavalent chromium (1000 ppm)
- PBB (1000 ppm)
- PBDE (1000 ppm)
- Cadmium (100 ppm)

REACH

- SVHCs (15) restricted to 1000 ppm in article
- Additional SVHCs proposed for inclusion on Candidate List by end of 2009 **and further inclusions at 6 monthly intervals**

Other

- RoHS II, others
- PFOS, HBCDD, other restrictions
- Formaldehyde
- Dimethyl fumarate - DMF - (desiccant additive)

Non – Regulatory Restrictions

RoHS

- Lead (20-100 ppm)
- Mercury (nondetect)
- Hexavalent chromium (nondetect)
- PBB/PBDE (nondetect)
- Cadmium (50ppm)

Halogen Free (Includes PVC/BFR Free)

- Chlorine (900 ppm)
- Bromine (900 ppm)
- Antimony Trioxide (900 ppm)

JAMP*/Japanese Green Procurement

- Restricts many potentially toxic substances, encompassing regulated and non-regulated substances

JIG (Joint Industry Guide)

- Guideline for reportable and restricted substances, but some OEM customers simply restrict the entire list

.... with new restrictions anticipated in the future, requiring constant scrutiny of supplier material data

Why compliance mgt is a priority – REACH Example

Companies face significant risks arising from the REACH regulation

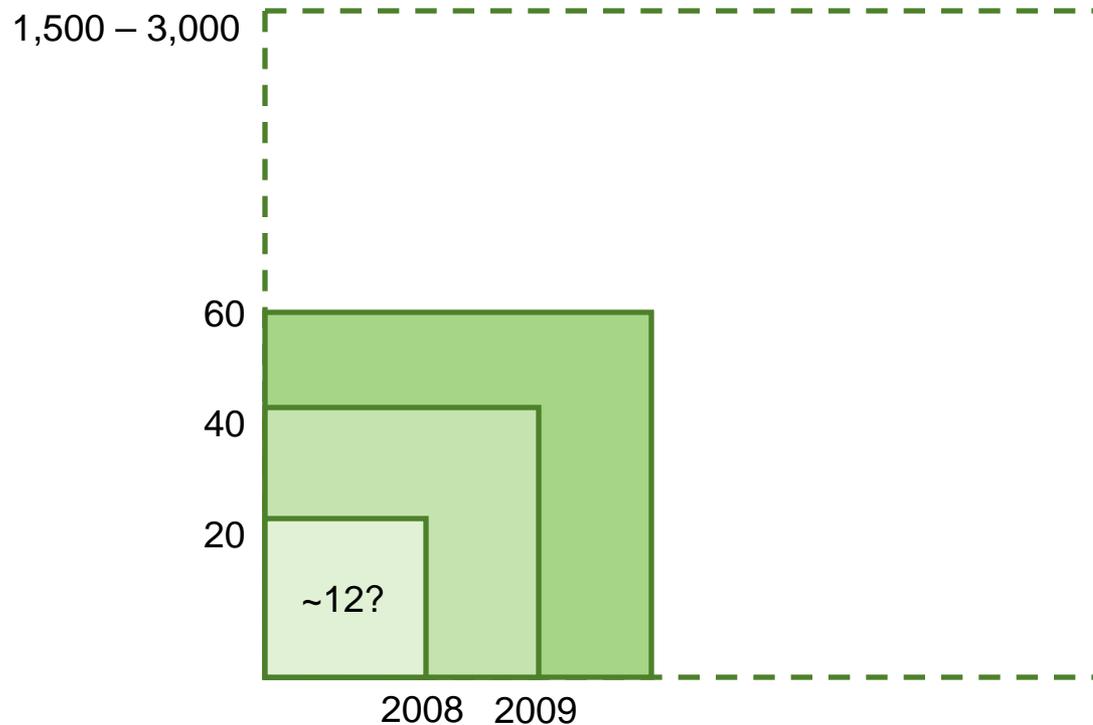
1. Companies will be prevented from shipping products into the EU market if their products don't comply with the requirements of REACH.
2. Companies whose supply chains intersect the EU market face the risk of costly supply chain disruptions. Under REACH, supplied parts and materials may become more costly, harder to procure, or even unavailable, as suppliers themselves take steps to become REACH compliant.

REACH compliance enables Xerox to continue commerce in the E.U.

Important facts

- There were 6 ROHS substances, REACH will have thousands.
- The list of SVHC's will continue to grow.
- Participation on SIEF's will be required. Cost sharing, data sharing will be mandated by ECHA to minimize testing costs and animal destruction.

Growing list of SVHCs



- SVHC list growing
- Other lists – SIN
- Supplier assurance and data policies need to reflect this – full material content, proactive lists

REACH Regulation → Compliance Systems

OVERVIEW OF REACH REGULATION Requirements

- Applies to **all chemical substances** in commerce in Europe
 - Imported in volumes > 1 Metric Ton (MT) annually and/or
 - Identified as “Substance of Very High Concern” (SVHC)
- Applications of the legislation
 - Used in Xerox European Manufacturing Processes
 - Ingredients of products imported to Europe for commerce
 - ☑ Chemicals used in Xerox “products” (toners, solid inks, developers, service materials)
 - ☑ SVHC criteria apply to formulations and product “hardware”
- Coordinated by EU Chemical Agency
- Three Regulatory Phases: Pre-Registration/Registration/Authorization

Ramifications for manufacturers, importers and downstream users of chemicals who do business in Europe

REACH FUNDAMENTAL SYSTEM REQUIREMENTS

- Provide a repository for:
 - Substances in every Xerox part
 - Quantity of substance in each part
 - Supplier grading/compliance to REACH
 - Documentation on the chemical and safety assessment of substances comprising the products we make and sell
- Enable synchronization with configuration database
- Provide volume projections
- Enable:
 - Shipping and receiving due-diligence reporting
 - Data import and export for REACH-IT
- Available during normal business hours with “follow the sun” help desk support for US and XE

Current Status of Xerox Compliance Mgt. Systems

- **2005:** ePIM system deployed to support Due Diligence process for RoHS (Form A), WEEE (form B). Similar process (on different system) exists in Wilsonville.

Level 1	• Documented compliance process (ex. WGC document) • Declaration of compliance for Product - signed by product/program manager
Level 2	• BOM linked to equipment identifier (Spreadsheet listing with indication of compliance status) • Acquired products linked to identifier • Spares & consumables linked to identifier
Level 3	• Signed EH&S 1001 (forms A & B) for each item on BOM (electronic signature reqmts need to be addressed by IT & OGC) - Specific exemption identified - Signed by supplier of item (appropriate official – e.g. not sales or EH&S mgr)
Level 4	• Test data/report for high risk items on BOM (see DTI Annex D) (third party?)(need to define "high risk") - To meet Xerox due diligence requirements

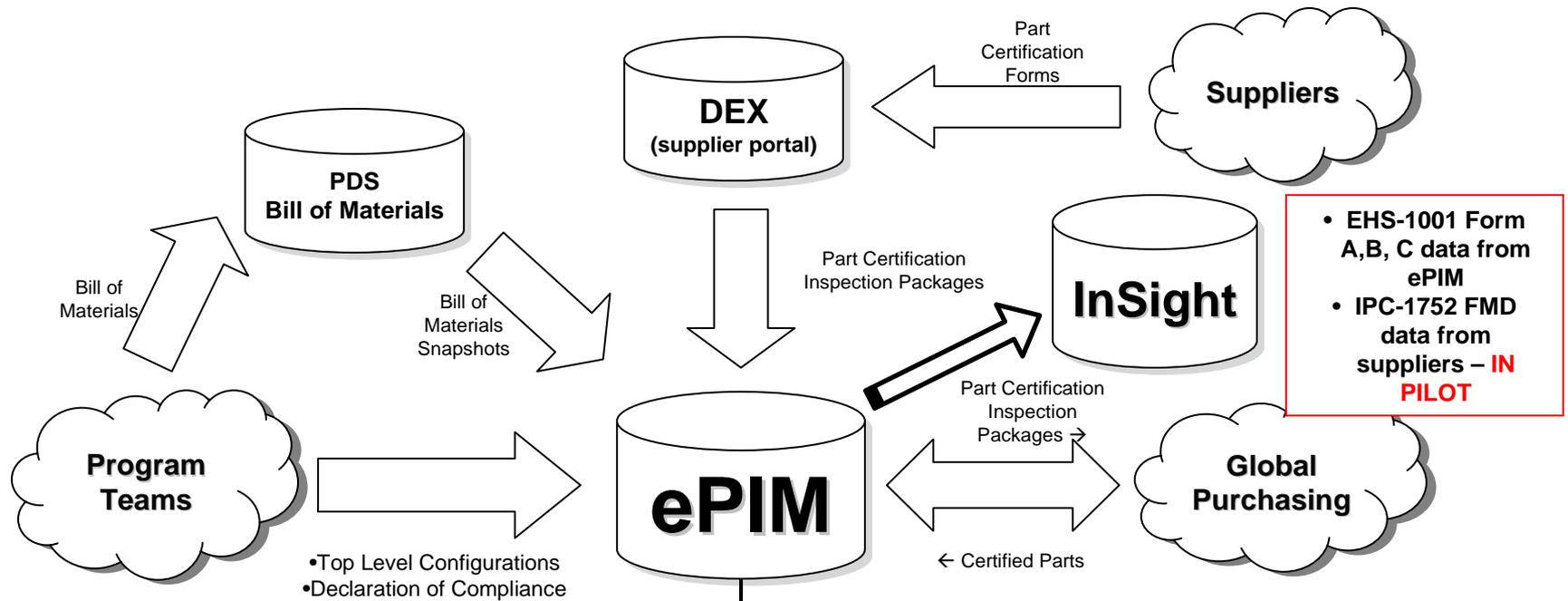
- **2008:** InSight System deployment for consumables. Volumes forecasting for REACH
- **May, 2009:** REACH “Stop gap”. Added **EHS-1001 Form C** to ePIM Due Diligence process. Form C “REACH” data also loaded into InSight.
- **2009: REACH Articles** project:
 - **Integration with Xerox BOM** systems for part/product grading – 80% done
 - **Retire ePIM** process. Migrate data, certificates from ePIM into InSight – 80% done
 - **Pilot Full Material Disclosure (FMD)** process using IPC-1752 with InSight – Started Sept. 2009
 - **Train suppliers** on IPC-1752 FMD process – Nov. 2009 – 2010
 - **Integration with WERCS** (MSDS/formulation Mgt. replacement system) – starting 4Q09
- **2010: Integrate InSight with Teamcenter Unified** architecture
 - To provide access to vendor Part number data
 - Enhanced reporting of product and supplier compliance on BOMs & parts.



Compliance Mgt: A-Level Plan

Environmental Compliance IM High Level Timeline				
Phase	Description	Start	Outlook/	Status/Comments
		Date	Actual End	
Phase 1	REACH: Toner Consumables Compliance Mgt	3/1/2008	12/1/2008	Done
Phase 2	REACH: Articles Compliance Management	1/1/2009	10/31/2009	In Progress
	Supplier Material Declaration process			
	Migrate RoHS system (ePIM) into TceC			
	Phase 2 Initial Planning			
	REACH "Stop Gap" (w/ EHS-1001 Form C)			
	IPC-1752 form - Proof of Concept			
	Supplier Material Declaration Work Process			
	Develop Solution for Approved Vendor List			
	BOM Integrations			
	RoHS migration (from TC Enterprise)			
	Transition current compliance reporting to InSight			Not started
Phase 3	IPC-1752 Deployment	8/1/2009	2010+	In Progress
	Develop Work Process for Pilot		8/30/2009	Done
	Develop Training		9/18/2009	Done
	Perform IPC Pilot		11/30/2009	In Progress
	Plan IPC deployment (based on pilot results)		11/30/2009	Not started
	Support GP in deploying IPC to Xerox Supplier Base (2000+ suppliers)		2010+	Will continue beyond 2010
Phase 4	Compliance Mgt. - Access to vendor PN data	Dates to be aligned with GCM project		
	Done			
	In progress, not 100% complete			
	Not started			

RoHS High Level Overview



• EHS-1001 Form A,B, C data from ePIM
 • IPC-1752 FMD data from suppliers – IN PILOT

Item Identifier	Status	Accountant
EHS1001INSP_035089001_20060412_01_	FORM-A&B VALIDATION FAILED	mgoodson
Abstracts.GDT	WORKING	autobload
DEXTransactionRecord.bt1	WORKING	autobload
E-signatureInfo.bt1	WORKING	autobload
epim_import.bt1	WORKING	autobload
epim_import.bt1	WORKING	autobload
ValidationReport_A.bt1	WORKING	autobload
ValidationReport_B.bt1	WORKING	autobload
Xerox_Compliance_Forms_V3_-_041109.xls.1	WORKING	autobload
EHS1001INSP_035089001_20060803_01_	ONLY FORM-A VALIDATION PASSED	autobload
EHS1001INSP_057984001_20060131_01_	FORM-A&B VALIDATION FAILED	autobload
EHS1001INSP_057984001_20060220_01_	ONLY FORM-A VALIDATION PASSED	autobload
EHS1001INSP_057984001_20060303_01_	ONLY FORM-A VALIDATION PASSED	autobload
EHS1001INSP_057984001_20060308_01_	ONLY FORM-A VALIDATION PASSED	autobload
EHS1001INSP_057984001_20060328_01_	FORM-A&B VALIDATION PASSED	gscanton
EHS1001INSP_057984001_20060512_01_	FORM-A&B VALIDATION PASSED	stoteczki
EHS1001INSP_057984001_20060512_02_	FORM-A&B VALIDATION PASSED	stoteczki
EHS1001INSP_057984001_20060612_01_	FORM-A&B VALIDATION FAILED	gscanton
EHS1001INSP_057984001_20060626_01_	FORM-A&B VALIDATION PASSED	gscanton
EHS1001INSP_057984001_20060712_01_	ONLY FORM-A VALIDATION PASSED	stoteczki
EHS1001INSP_057984001_20060713_01_	FORM-A&B VALIDATION FAILED	gscanton
EHS1001INSP_065326001_20060214_01_	FORM-A&B VALIDATION FAILED	autobload
EHS1001INSP_065326001_20060217_01_	FORM-A&B VALIDATION FAILED	autobload

Inspection Process: 10 users
700 inspection packages processed

Certificate Access: 50 users
115K certificates, 1170 suppliers

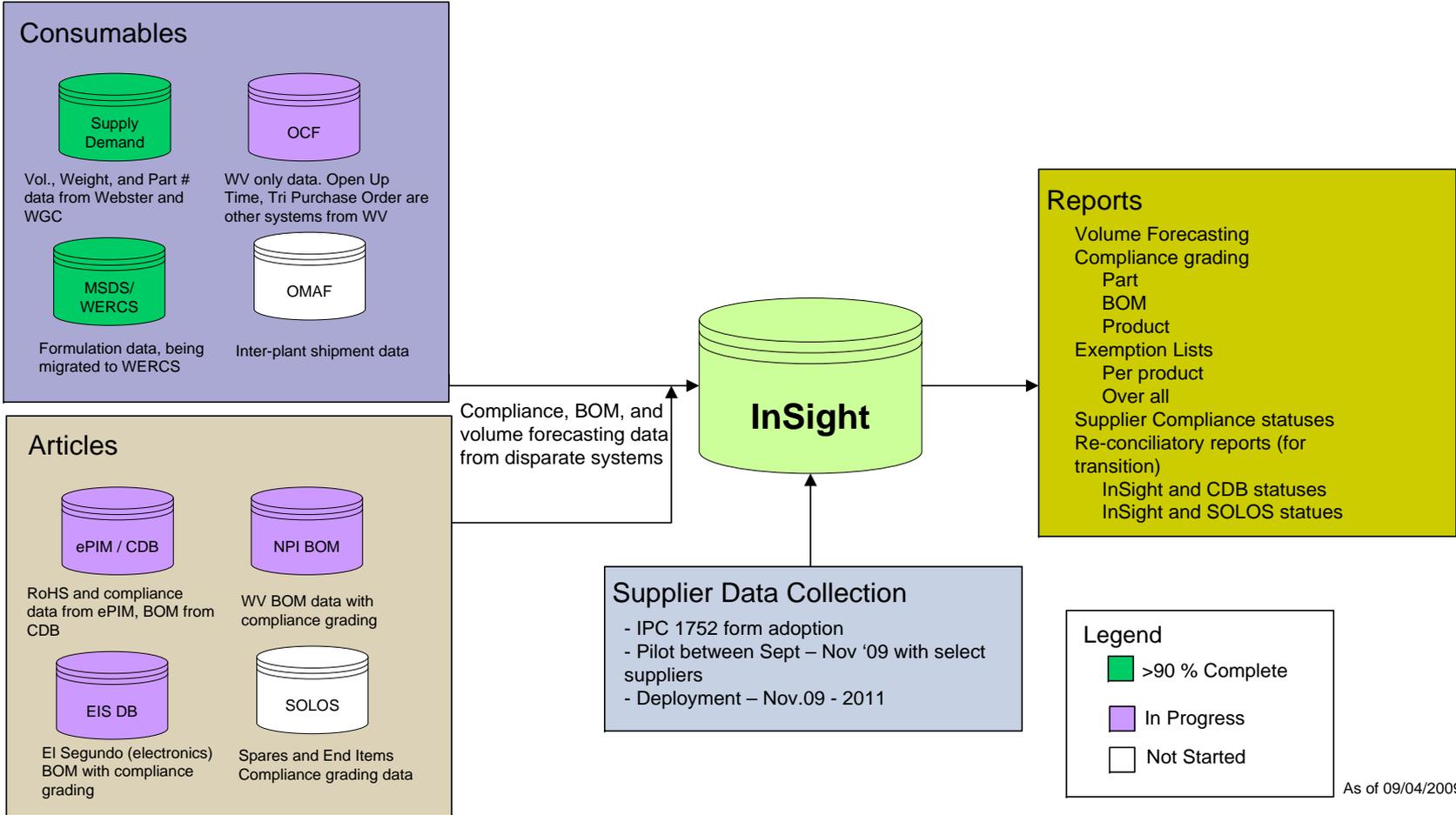
Certificate Access: 50 users
115K certificates, 1170 suppliers

Due Diligence (L1-L4): 25 users
50 products, 53K unique certified parts

Due Diligence (L1-L4): 25 users
50 products, 53K unique certified parts



REACH & Compliance Mgt using InSight



Discussion Points

- There is some confusion around the directives coming from EU and other organizations. It is a dynamic process and requires resources to follow.
- NIST can play a significant role in coordinating, e.g. knowledge sharing.
- Expansion of what Sudarsan has started - a forum for focused discussion.
- Universities, Companies & Organizations working together not only to comply but make earth it a better place to live.
- Thanks to NIST for organizing the workshop 😊
- Our destiny is a choice: companies will not make the right choice for our grandkids!
- Design-mfg collocated. Current economic forces are against it. It may change with more regulation ! US is behind EU in environmental regulations.

EUROPA > EUR-Lex > ID index

32006R1907

Title and reference

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

OJ L 396, 30.12.2006, p. 1-851 (CS, DE, HU)
OJ L 396, 30.12.2006, p. 1-852 (ES, DA)
OJ L 396, 30.12.2006, p. 1-853 (EL)
OJ L 396, 30.12.2006, p. 1-849 (EN, FR, IT, SL, FI, SV)
OJ L 396, 30.12.2006, p. 1-850 (ET, LV, LT, MT, SK)
OJ L 396, 30.12.2006, p. 1-848 (NL)
OJ L 396, 30.12.2006, p. 1-794 (PL)
OJ L 396, 30.12.2006, p. 1-854 (PT)

Special edition in Bulgarian: Chapter 13 Volume 60 P. 3 - 280
Special edition in Romanian: Chapter 13 Volume 60 P. 3 - 280

CS DE HU DA ES EL EN FI FR IT SL SV ET LT LV MT SK NL PL PT

Text

BG	ES	CS	DA	DE	ET	EL	EN	FR	GA	IT	LV	LT	HU	MT	NL	PL	PT	RO	SK	SL	FI	SV	
html	pdf																						
tiff																							

Dates

of document: 18/12/2006

EUR-Lex - 32006R1907 - EN

Select all documents based on this document

Amendment to:

- 31976L0769 Repeal
- 31991L0155 Repeal
- 31993L0067 Repeal
- 31993L0105 Repeal
- 31993R0793 Repeal
- 31994R1488 Repeal
- 31999L0045 Amendment abolition Article 14 from 01/06/2007
- 32000L0021 Repeal
- 52003PC0644(01) Adoption

Amended by:

- Corrected by 32006R1907R(01)
- Corrected by 32006R1907R(02)
- Corrected by 32006R1907R(03)
- Amended by 32007R1354 Amendment Article 3.20 from 23/11/2007
- Amended by 32008R0987 Amendment Annex 4 from 12/10/2008
- Amended by 32008R0987 Amendment Annex 5 from 12/10/2008
- Amended by 32008R1272 Amendment A119 from 01/12/2010
- Amended by 32008R1272 Replacement A138P1PH2 from 01/12/2010
- Amended by 32008R1272 Replacement A14P2PTB from 20/01/2009
- Amended by 32008R1272 Replacement A14P4 from 01/12/2010
- Amended by 32008R1272 Amendment A31P1PTA from 01/12/2010
- Amended by 32008R1272 Replacement A31P4 from 01/12/2010
- Amended by 32008R1272 Replacement A31P8 from 20/01/2009
- Amended by 32008R1272 Replacement A3PT2 from 01/01/2009
- Amended by 32008R1272 Replacement A40P1PTA from 01/12/2010
- Amended by 32008R1272 Replacement A40P1PTB from 01/12/2010
- Amended by 32008R1272 Replacement A40P1PTC from 01/12/2010
- Amended by 32008R1272 Replacement A56P6PTB from 20/01/2009
- Amended by 32008R1272 Replacement A57 from 01/12/2010
- Amended by 32008R1272 Replacement A59P2 from 20/01/2009
- Amended by 32008R1272 Replacement A59P3 from 20/01/2009
- Amended by 32008R1272 Replacement A65 from 01/12/2010

Back up

InSight Screenshots

Compliance Status

Compliance Status: ✓* ✓* ✓* ✗

View Details

Specification: ROHS (CONSUMER) ROHS (INFRASTRUCTURE) ROHS (SERVER) JIG (A)

Revision: B B B B

Disclosure Level:

Exemption Earliest Expiry Date:

Qualification Owner: emarsadmin emarsadmin emarsadmin emarsadmin

Material Content Company Parts Compliance History Supplier Part History Lead Free

RoHS Roadmap Doc Comments

Row	Part Number	Description	Status	ROHS (C)	ROHS (I)	ROHS (S)	JIG A
1	11-1552-01	CAP,CE,.027uF, 10V, 5%,SM,0603	QUALIFIED	✓*	✓*	✓*	✗

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15 rows/page

Records [1 - 1] / 1

Material Content Company Parts Compliance History Supplier Part History Lead Free RoHS Roadmap Doc

Comments

Row	Material Declaration Version	Compliance Version	Specification	Rev	Section	Disclosure	Compliance Status	Active	Exemption Earliest Expiry Date	Qualification Owner	Updated
1	1	2	JIG	101	A		✗	true		emarsadmin	10/16/2006 06:40:25
2	1	2	ROHS	B	CONSUMER		✓*	true		emarsadmin	10/16/2006 06:40:25
3	1	2	ROHS	B	INFRASTRUCTURE		✓*	true		emarsadmin	10/16/2006 06:40:25
4	1	2	ROHS	B	SERVER		✓*	true		emarsadmin	10/16/2006 06:40:25
5	1	1	JIG	101	A		✗	false		emarsadmin	10/16/2006 06:38:45
6	1	1	ROHS	B	CONSUMER		✗	false		emarsadmin	10/16/2006 06:38:45
7	1	1	ROHS	B	INFRASTRUCTURE		✗	false		emarsadmin	10/16/2006 06:38:45
8	1	1	ROHS	B	SERVER		✗	false		emarsadmin	10/16/2006 06:38:45

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15 rows/page

Records [1 - 8] / 8



Xerox is Piloting use of the IPC-1752 form for Full Material Disclosure (FMD)

Xerox has a new system for gathering environmental compliance data from its supply chain with the aim of benefiting all parties.

The proposed solution will give suppliers the opportunity to provide data and enable Xerox to meet future compliance requirements without the need for further request.

You have been selected to be part of this pilot project to help in the “proof of concept”

The purpose of the pilot is to test the data collection processes, tools, data flows and training materials, as well as introducing the IPC format for compliance declaration up to and including full material disclosure.

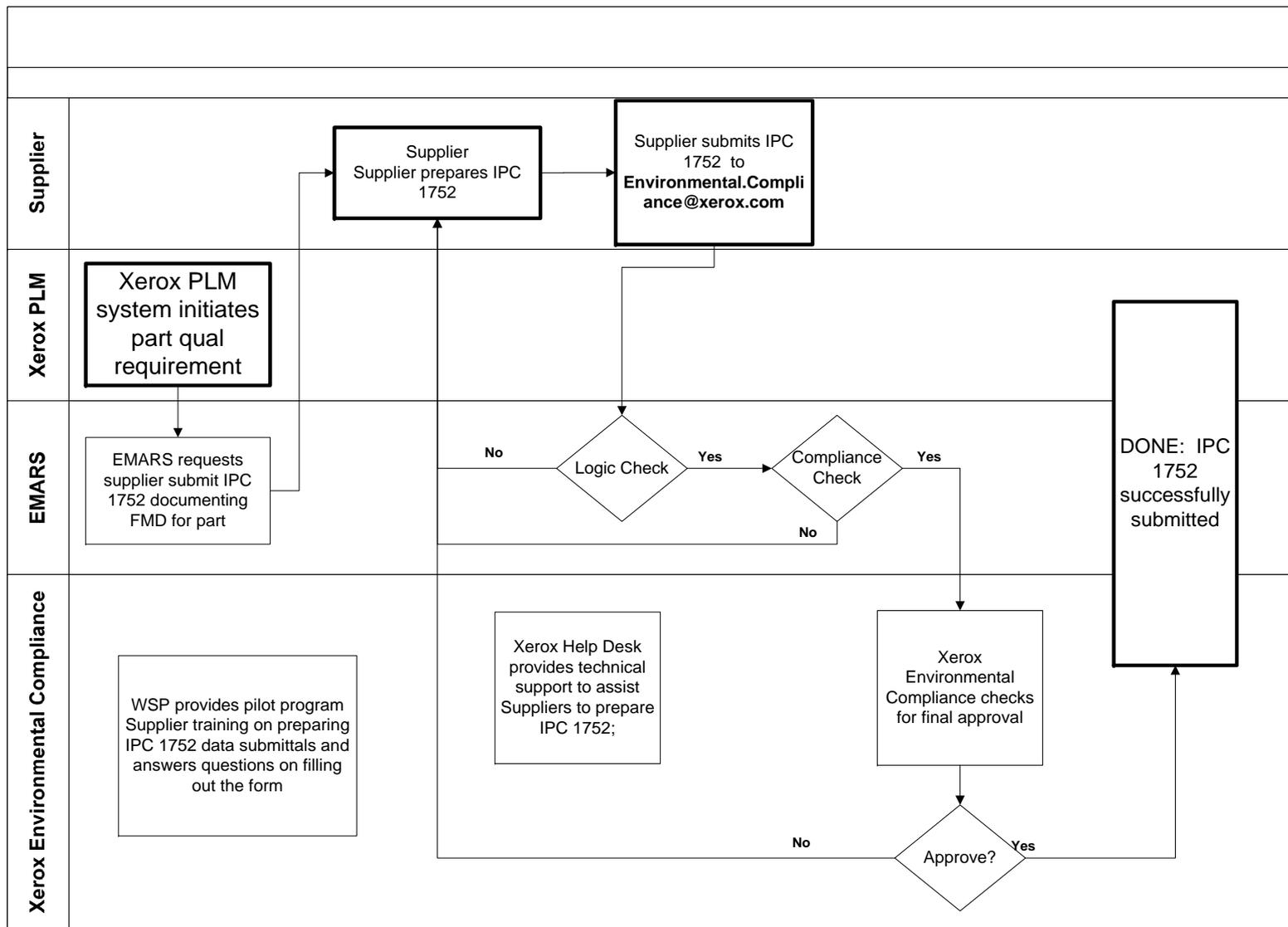
Summary of changes

Xerox is evaluating changes to how product environmental compliance data is collected and managed:

- Our goal is to transition from the current Xerox EHS-1001 spreadsheet data collection format to the industry standard IPC 1752 format
- Implement InSight for managing, loading, validating and reporting on the Supplier data submitted
- Enable full material disclosure to better manage compliance and provide a more efficient business process while reducing future demand for part compliance information from suppliers

These changes are being driven by new regulations, customer requirements, and the need for more efficient business processes for managing product environmental requirements

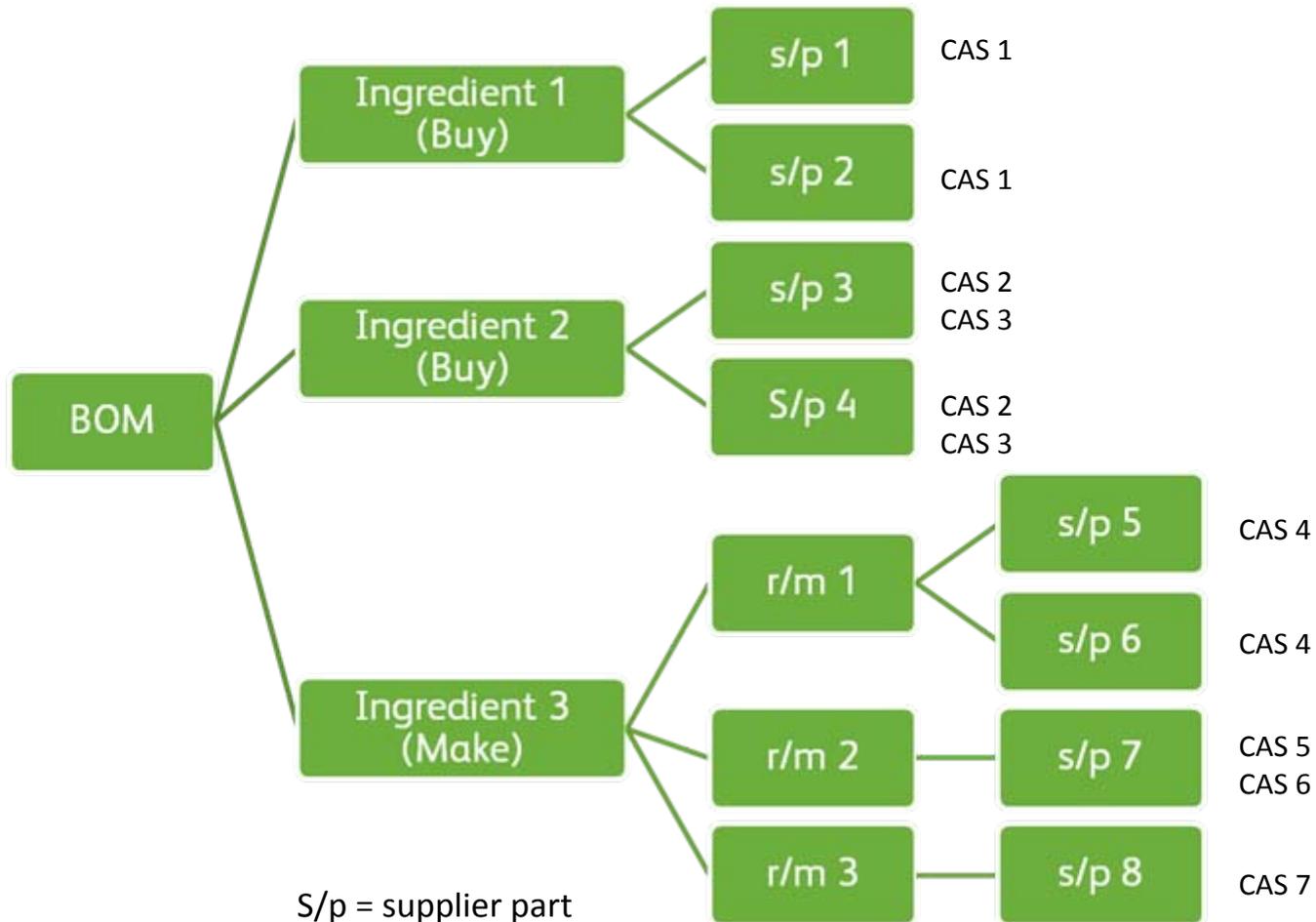
Pilot project business process



Xerox requires supplier to use IPC 1752-2, Class 5

- ✓ Suppliers must use IPC 1752-2, Class 5 form – On page one “form type”, choose “Distribute” mode so you don’t have to complete the requestor information section, or use .xml provided in the request email.
- ✓ One part number per form
- ✓ Suppliers must certify their compliance against Xerox Environmental, Health and Safety Supplier Requirements: Chemical Bans/Restrictions and Part Marking (EHS 1001).
- ✓ IPC 1752 User’s Guide and forms are available for free at ipc.org
- ✓ Please import data from xml file to prevent typo errors. (Instruction on P. 20-22)

To Be: Xerox "Toner BOM" Model



Need declaration form for each supplier part

Note: this model is NOT implemented in phase 1 of Xerox

October 13, 2009